Enhancing Agriculture in Africa: A Role for U.S. Development Assistance

Volume II--Contract Papers

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LOW-RESOURCE AGRICULTURE IN AFRICA

African Perspectives on Low-Resource Agriculture

by

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INTRODUCTION

1. This paper is organized into three parts. PART ONE analyzes letters that were received in response to four questions, submitted through written correspondence, to a number of Africans as a basis for a survey of African perspectives. Most of the letters (see sample appendixed to this report) were sent to individuals working in Africa, some were sent to Africans in the U.S. as "visiting scholars" (most on Fullbright sponsorship). The letters asked the recipient to answer four questions:

1. Is there an agrarian crisis in your region and how is it defined?

2. How do your views differ from others', especially donors' views?

3. How does the OTA model of "low-resource agriculture" fit with your view of African agricultural development?

4. What would a constructive U.S. agricultural assistance program look like?

2. The survey is intended to increase African participation and input into OTA work, gain useful material and insights (several respondents sent in their articles related to the subject (further bibliographic suggestions) identify U.S.-African differences in views and obtain suggestions for U.S. options. PART TWO surveys selected governmental and non-governmental

documents, national and continent or region-wide documents. An examination of these documents is intended to provide insights with regard to focus on low-resource agriculture, differences in socio-political regimes and guidelines for U.S. foreign assistance policy. How much do the ideas in such documents reflect the real needs of the countries and low-resource agriculturalists and herders, especially women? PART THREE draws up the author's knowledge and experience to offer policy-oriented suggestions.

PART ONE: SURVEY PERSPECTIVES

A. In your view, is there an "agrarian crisis" in your region? How is it defined?

3. Most of the respondents answered "yes" and went on to elaborate, explain and/or draw specific distinctions related to their positive response. They tend to have defined the crisis in terms of declining agriculture (food) productivity relative to increasing rates of population growth and urbanization, foreign exchange problems posing serious constraints on food imports and increasing dependency on food aid from external donors (mostly the U.S. and EEC countries).

4. While generally acknowledging the issue of an "agrarian crisis", the approximately 30 respondents analyzed thus far were quick to point out that the agrarian crisis differs from region

to region, from one country to another and even from one locality to another within the same country. Some of them underlined the fact that the agrarian or food crisis needs to be situated within a broader "crisis of development".

5. A summarized listing of factors mentioned as causing, symptomatic and/or facilitating (exacerbating) the crisis is as follows:

1. Natural disasters including periodic droughts, floods; problems with desertification with fragile soils, pests (tsetse, locusts), disease epidemics;

2. Man-made disasters: civil wars, political conflicts in Southern Africa and political instabilities generally;

3. Lack of modern capital resources, skill and entrepreneurship and the inability to utilize traditional resources, skills and management practices to promote development;

4. The lack of multi-disciplinary research relevant to the local conditions;

5. Lack of appropriate technical and scientific improvements and adequate agriculture extension and services;

6. Excessive reliance on bureaucratic controls rather than market mechanisms (rigid price controls leading to market failures and the rise of informal markets);

7. Failures in appropriate policy and plan implementation objectives;

8. External pressures: world recession, oil price shocks, deteriorating terms of trade for African agricultural exports, the debt crisis;

9. Inappropriate donor interventions including rigidly designed and time project interventions (excessive reliance on foreign expatriates);

10. Demographic problems including internal and external migrations, inequalities in access to land (land tenure problems) and agricultural inputs;

11. Programs and projects designed by central government officials and donor experts without the participation of the rural poor, especially rural working women;

12. Lack of adequate infrastructures including transport systems, credit facilities and market outlets;

13, A residual overemphasis on export cash crop production and large-scale mechanized farming;

14. Problems related to attitudes; for example, the changing food tastes in favor of rice and wheat as opposed to relatively traditional foods (sorghum/maize), as a consequence of rising commercial food imports and food aid;

15. For some countries, a blessing has turned into a curse: excessive reliance on oil or mineral exports (copper) at the expense of agricultural development.

6. Among the countries cited for achieving a relatively modest growth in agriculture between the sixties and eighties: Burundi, Cameroun, Ivory Coast, Malawi and Rwanda. Kenya and Botswana are

commended for having proven less vulnerable to the 1983-84 drought due to relatively better administrative capabilities, economic performance and political stability. Ngwa notes the Cameroun and the surrounding UDEAC region has serious "agrarian problems" but not "crisis". With regard to the SADCC region, Murapa defines the "agrarian crisis as lack of adequate productivity among the largest segment of the population - the peasant sector - whether or not that crisis is caused by natural factors, e.g. droughts, floods, soil types, climate etc. or by human/resource factors...". He cites Angola and Mozambique as countries that have been afflicted by political and armed conflicts; infrastucturally they are also the least developed countries in the region. Botswana's crisis is due to climate and soil factors. While copper prices soared, Zambia relied on copper exports to import food and other needs to the detriment of its own agriculture. As international copper prices collapsed, Zambia suffered its peculiar crisis similar to that of Nigeria. Malawi and Zimbabwe have achieved food self-sufficiency and even food surplus.

7. The countries of the Sahel have suffered the most acute food deficits, especially Mali, Burkina Faso, Niger, Chad, due to prolonged drought conditions. Other factors have exacerbated the problems caused by lack of adequate and/or timely rainfall. Conflicts have exacerbated natural problems in the case of Chad as they have in several of Eastern region countries: Sudan, Ethiopia, Somalia and Uganda. This prompts Solomon Bekure's

heart-felt response: "The root causes of the problem have much to do, if not more, with economic and political mismanagement as it has with a lack of appropriate technology...I, therefore, contend that U.S. development assistance should not be confined to technological issues. Doing so will be like trying to clap with one hand".

8. The general trend of views reflects the perspective that there is no uniform agrarian crisis in Africa. There are a series of surplus food deficit problem affecting different regions, different countries, even different zones within countries differently. Countries and localities that are more vulnerable to environmental or financial crisis find themselves facing a rapid escalation of chronic hunger and malnutrition into serious famines. In a nutshell, this is seen as the result of failures, whatever the reasons, to evolve technological capabilities within the major peasant sector for sustainable productivity in agriculture (i.e. based on sound resource management strategies).

B. In what ways do your views differ from others', particularly the views of officials of the bilateral and multilateral assistance programs in which the U.S. participated?

9. In discussing differences in view a number of the respondents said they regretted donor agency tendencies to focus on narrow (single-factor solutions) aspects of the problem and

fail to put this within the context of the ecological-economic (physical/material), social-organization and political-cultural realities. Donor perspectives are criticized for not being comprehensive or holistic enough, to treat problems in terms of isolated, narrowly-focussed projects.

10. A recurring criticism involves project-cycle time frame. As Jumanne Maghembe observes: "Specific projects should be of a duration sufficiently long to permit adoption, and phasing out preferably be gradual to assure continuity of introduced innovations". Strong suggestions were made that 2 to 5 years are inadequate to facilitate self-learning and corrective modifications in project experience.

11. Another criticism voiced refers to lack of effective participation in project design, management and evaluation by host country beneficiaries. Jesse Njoka expresses this issue thus: "Some donor agencies normally generate the projects and then somehow prevail over the host country to adopt the project proposal with or without modification if foreign assistance is to be granted...This problem is particularly aggravated by the frequent change of priority of donor agencies to keep up with their domestic policies."

12. Another commonly voiced criticism surrounds the issue of local vs. foreign experts: "...project design incorporates a high component of foreign experts...(who) play the active role in implementation, while the local counterparts are either abroad for further training or when present, they become passive because

they have little control...." Donors need to focus on institution building factors.

13. Other issues of perceived differences may be outlined as follows:

-Donor overemphasis on top-down inappropriate technology transfers; also on population programs which are overemphasized to the detriment of other programs

-Domestic needs push key donor countries to an increasing reliance on food aid which has harmful long-range consequences for African agricultural production;

-In order to minimize the negative aspects of rigid, simplistic globalist analysis and solutions, donors need to give more autonomously to host country missions in program/project design, implementation and modifications. The country mission, in turn, needs to involve more local expertise in the formulation and evaluation of programs/projects;

-In their rediscovery of African agriculture, U.S. and other donors tend to ignore the need to put some emphasis on appropriate farm-oriented industries in order to facilitate complimentary developmental linkages.

-Donors have tended to become obsessed with the private sector model (setting the right prices), while complex realities, call for a multi-pronged approach involving the state sector, the private sector (for profit) and the voluntary sector (cooperatives as well as other non-governmental organizations);

-Donors tend to ignore the need to provide certain strategic local costs that would facilitate project success;

-Donors not giving adequate attention to decentralized research and extension systems involving local experts and traditional knowledge systems. Zerubabel Nyiira remarks: "Farmer perceptions of problems and interests differ even within a small community."

-Donor assistance, especially USAID, needs to be less motivated by narrow, short-term political considerations at the expense of long-range developmental benefits.

14. While some respondents mentioned that they do not know enough about specific aid issues, others said they perceived differences in practices rather than principles. However, the consensus seemed to suggest that donor agencies and central government officials have failed to appreciate the need to base development on the resources and technologies currently available to the majority of the rural dwellers.

C. How well does OTA's model of "Low-resource agriculture" and "low-resource agriculturalist" fit with your views of African agricultural development?

15. The respondents generally accepted the OTA model of LRA as fitting with, at least, their descriptive or analytical conceptions of current agricultural patterns in Africa. A. Kogblevi positively welcomes the model and goes on to provide more arguments for it; essentially he draws upon selected Benin

experiences to show that a systematic search is needed for those (soil improvements) traditional technologies which are successful (in this case those related to traditional fertilizer/fallow techniques). For him and others, the model is both feasible and practical. On the other hand, N.R. Mugabe feels that the selfish tendencies that incline donors towards food aid and export of inappropriate top-down technological solutions would work against attaining the potential implied in the OTA model: "The main problem is that self-reliance and low-resource agriculture are not compatible with Western interests."

16. The majority who accept the model go on to make the following comments intended as modifications or supplementary to the model:

-The OTA model should not be treated as a "fetish" (or "sacred cow" as one of them noted), it should be viewed flexibly and pragmatically; one implied danger is that it might take provision of subsistence existence as the final objective, while development implies more than meeting subsistence needs;

-The model most incorporate an historical, dynamic perspective: it must provide room for the evolution of African LRA into modern science based technologies (a number of the respondents have drawn parallels to the historical evolution of U.S. agricultural technologies;

-The model needs to be extended to include a role for complimentary non-farm activities. The low-resource sector should not be "compartmentalized" from the rest of the economy."

component development should be blended with overall composite development" (Collings Ngwa).

-Fishermen should be included together with poor farmers and herders and also, like in India, rural craftsmen who produce goods and do repair work utilizing low risk, small-scale technologies;

-OTA model must also recognize the need for major interventions in the areas of education and health for the majority of poverty stricken rural dwellers;

-OTA model must take into account that "traditions" themselves have evolved dynamically; what are "traditions" today were probably not so traditional not too many years ago; changing land and population factors may also have converted "sound traditions" of yesteryear into "negative traditions" of today.

17. Among the more critical comments are those of respondents like N.R. Mugabe who state it would be a "non-starter to separate low-resource agriculturalists from commercial or high-technology agriculture" because it would lead to a situation of "untouchable farming." D.M. Thairu proposes adopting the Farming System Research as the model and fitting LRA into it as an aspect, he sees the need for incentives to facilitate various inputs into traditional farming. John Shao draws upon Tanzanian experience to criticize what is implied as a traditional bias in the OTA model (his response does not address directly the questions raised). In his view: "The traditional system of land tenure and land-use has therefore become a cocoon encasing the further

development of Africa's agriculture, fettering its expansion, hindering the application of science technology, making farm work an unrewarding drudgery and frustrating the constant efforts of governments and experts to see the farmer increase production and improve his life. Africa's agriculture needs to break out of this cocoon in order to continue an unstunted development." Accordingly, Shoa advocated all ways and means of rapidly modernizing African agriculture along commercial, capitalist lines.

18. On the other hand, Fasil Kiros raises issues with the model from a perspective normally associate with those who see African development along Socialist lines. The terms "low-risk" and "low-cost", he argues, are based on market-oriented prices or commodity values given existing realities. However, if one were to really assess issues from a use-value perspective, the actual drudgery involved makes the effort "high cost", while "low risk" may imply "low" in relation to the market but "high risk" in relation to the vagaries of nature especially for extremely poor and marginal producers in harsh environments.

19. Nevertheless, the consensus favors a flexible adoption of the OTA LRA model as the most realistic approach to solving present and continuing African food deficits. What is necessary is intensive and extensive research to really understand traditional systems in order to evolve appropriate technologies and institutions which can be used in given systems and which rely on efficient use of existing agricultural resources

necessary for the future development of both sustainable food production systems and overall development.

D. On the basis of your experience, what might a constructive U.S. foreign assistance program for African agriculture look like?

20. In dealing with this issue, Jose A. Fernandes remarks: "We think that the "secret" of the constructive assistance programs lies upon the comprehension of this continent's heterogeneity." Each country has its peculiar historical, cultural, socio-political and environmental characteristics. There is also heterogeneity within each country and between regions in Africa. One of the suggestions that flows from this is the need to decentralize the USAID set-up somewhat to give Mission Directors more autonomy to handle national and local differences with greater discretion and flexibility.

21. With regard to the project format, most respondents highlighted the need to extend the project cycle to a minimum of 10 years (10-15 years). This was specially stressed with regard to research projects. The respondents also highlighted the need to assist in matters of project local costs and recurrent costs depending on the circumstances. Others commented on the need to explore other means of assistance including programme funding and funding for institution building activities (especially since project funding often ignores the need for, at least minimum but

consistent "core" activities needs.

22. Food aid, however, necessary for humanitarian reasons, should be treated critically otherwise it would do permanent damage to African agriculture and cause extreme forms of dependency. The U.S. must strive to check the strong internal needs to dump its excess food surplus abroad. Will the U.S. be able to achieve such limitations? At least one respondent is highly skeptical: "The main problem is that self-sufficiency and low-resource agriculture are not compatible with Western interests." (N.R. Mugabe). The U.S. is encouraged to at least barter certain foods (wheat) with surplus African producers (for example, Zimbabwe or Malawi) and allow the latter to export wheat to needy neighbors.

23. U.S. assistance should emphasize community participation and especially the involvement of women who are the backbone of the rural economies. However, this must be done in partnership with Africans taking into account cultural and related factors. Directing aid to low-resource agriculturalists is recommended by most respondents albeit with the modifications noted above.

24. The need to strengthen local institutions, cooperatives and to utilize NGOs/PVOs have characteristics, interests, experiences and flexible structures that allow them to work relatively more effectively with heterogeneous communities at local levels. This implies endorsing funding PVO/NGOs as part of the general institution building strategy. U.S. PVOs must be encouraged to put the matter of strengthening local institutions and PVOs the

priority it most urgently deserves.

25. The need to strengthen relevant research training, education and extension was repeatedly underlined in the responses. This is partly because many of the respondents were professionally in these areas and therefore were able to go into specific details or add supporting documents they had written on the subject; however, the main reason seems to be that these areas fit into the regional national and local institution building strategy overwhelmingly recommended.

26. It is repeatedly stressed that U.S. assistance should utilize African researchers, consultants and other experts in project design, evaluation and related studies. This indicates, with possible exceptions here and there, that this is an area of serious current neglect. Most of the respondents showed both surprise and pleasure that the OTA had decided to involve them by asking their advice. They felt that this is in itself a good start and is a trend that needs to be expanded and reinforced especially at the level of USAID Missions abroad. U.S. assistance should involve national experts and local institutions as partners. Is it possible for private U.S. consultancies and universities that win USAID research and related contracts on a competitive bid, is it possible to get them to play a similar role in local institution building or does this matter threaten their longer-term interests?

27. Some respondents stressed the need for the U.S. to respect the political choices of African states, for example non-

alignment, socialism, etc. They called on U.S. assistance to be not only long-range and consistent, but less narrowly political. Others felt the U.S. must take some stand on matters involving conflicts of political instability and war, resulting in refugees, brain drains, etc. They urged U.S. policy makers to seek ways and means of promoting political stability and cooperation and an atmosphere that would facilitate meaningful development. Strong feelings were expressed, however, in cases of widely condemned African regimes/leaders where corruption is so rampant that meaningful development can be expected to take place. The U.S. is urged in such cases to use aid as a leverage to improve the situation and, at least, to ensure through tighter financial controls that aid flows to the targeted beneficiary as much as is possible under such circumstances.

28. U.S. assistance may be geared flexibly according to certain countries, for example island nations, landlocked nations, countries near South Africa faced with external military pressures, Sahelian countries afflicted with drought. Julius Okojie recommends, for example, the following categorization: a) countries with enough land and human resources b) countries without enough human and land resources but no natural disasters and c) countries with experience of natural disasters or are potentially disposed to such experiences. Nevertheless, the majority think that aid should be geared according to the characteristics and need of each single, individual African country. It should also be comprehensive or holistic in

approach. Selected specific suggestions include:

-assisting in developing a farming systems approach to research with emphasis on staple food crops research, linking international, regional, national and local research efforts and viable extension systems;

-Assisting in higher training of Africans as well as in informal training programmes for rural groups with special emphasis on training for women (both at local and national levels).

-Assisting Africa in developing relevant forms of appropriate technologies including medium level technologies prevalent in Asia;

-assisting in infrastructural projects, roads, bridges (transport) many of these are amenable to large U.S.technologies;

-assisting in massive afforestation and reforestation programmes;

-assisting in developing renewable energy sources (solar, wind)

-assistance in better land-management practices and planning including better management of water resources, including river basins and irrigation;

-assistance in population issues including internal and external migrations with special emphasis on drought victims and refugees;

-assistance in addressing the problems of drought and desertification as an integral part of agriculture and rural development, with the active involvement of village and community, wherever applicable;

-assistance in appropriate technology development should focus on small-scale irrigation technology, farm equipment, post harvest loss technology, related rural industries;

-assistance in satellite and other technology to strengthen national and sub-regional early warning systems (certain experts have argued that if rains could be predicted more accurately, African farmers could be advised to plant in such a way as to minimize the need for expensive, external inputs and fertilizers).

-assist in evolving viable rural credit programmes as well as rural health and education;

-assist African governments in the promotion of reform measures to offer better incentives to farmers, civil service reforms to insure better staff incentives and related management development measures;

-engage in policy dialogue as partners

29. Most of the respondents endorsed the recommendations outlined in the OTA Technical Memorandum of December 1984. They clarified certain issues according to their professional background, country needs and so forth. In making certain suggestions, they indicated that the U.S. may not be able to do something about it; for example, on getting multinational corporations not to usurp the resource base and market

possibilities for African agriculture. In general, however, they seem to have avoided the "dependency" debate common in African development discussions as will be referred to below. However, a careful reading shows that their responses contain the tensions between "large scale modern technology" and programmes and the small-scale approach implied in the OTA model. There is a lot of literature on African labor shortages. This has prompted some Africans to argue that population expansions may not be bad after all, channelled properly they could remedy labor shortages. Asian advances were made possible due to labor abundance. The other side of the coin is that if African agriculture's main constraint is labor shortages, then rapid advances can only be made through injections of large scale modern technologies. (see K. Hart, 1982). This nagging desire for technological shortcuts is behind some of the apparent contradictions in the responses. It is also behind African rural development policy debates as will be explained below. It has affected both sides of the so-called ideological line - those for capitalist development and especially those for radical socialist oriented development who have developed a penchant for what Goran Hyden calls the "blue-print model" of development. Apart from these recurrent tensions that will be manifested as we examine official policy documents, the African respondents' remarks and observes generally tend to agree with Sara Berry's (1984) comprehensive review of the African food crisis and her concluding remarks: "There is no single explanation nor universal cure for African food deficits. At most, this review has shown that to think through the validity of particular arguments or remedies for the food crisis we need to take account of changing conditions of access to economic opportunity and productive resources as well as examine changes in the way agricultural resources are used." (Berry, 1984, p.96).

See pages 21 b + c

PART TWO: AN ANALYSIS OF SELECTED POLICY DOCUMENTS

See page 21 d

30. This section focuses on main ideas selected from policy documents by selected national governments, non-governmental organizations, sub-regional and continent wide organizations that specifically focus on low-resource agriculture with a few selected contrasting cases. Factors such as resources and management capacities are an important aspect of the contrasting approaches. It is also modalities chosen; for example excessive reliance on state interventions, especially in the form of large-scale projects, inappropriate technology choices,these and related factors explain differences much more than the formalistic aspects of ideological orientations, though the few socialistic oriented regimes (Ethiopia) continue to rely on an aggressive blue-print approach to development. (Hyden, 1983). In the case of Ethiopia in particular, the radical transformation of the socio-political regime orientation influences its approach. However, the penchant for large-scale project interventionism

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Most of the African respondents pointed out that the "agrarian crisis" has not affected all of Africa, even all parts/regions within a country equally. For various physical (environmental), social--organisation, political-psychological reasons, certain countries, and/or groups within countries were more vulnerable than others. For one thing, Africa lacks the data necessary to make valid generalisations. Nevertheless, as Sara Berry (1984) observed, large donor organisations, the World Bank in particular, have taken highly unreliable globally aggregated data and proceeded to propose global solutions for African problems. One of these is the notion of putting all blame on African governments with the implicatiion that Africa could only be saved by international agencies and that African public institutions are the major constraints.

A corollary to this is the excessive push given to "privatization". As will be indicated in Part Two, many African governments have indeed come to realize that they are overextended. But it is one thing to limit and improve public institutions, and it is another to try and do away with them altogether. The debate about prices, for example, in many parts of Africa, due to imperfect market conditions, the issue boils down to having governments fix prices, or letting someone else do the job; it is not a simple trade-off between fixed prices and competitive (ideal) prices.

This externally induced rediscovery of African agriculture has also led to "farming campaigns" that have serious environmental, land tenure and equity implications. At least one respondent (Mohamed Abukar) dwelt at length with this phenomenon, sometimes referred to as involving "cowboy farmers". The Sudan witnessed large acres of environementally sound vegetation destroyed by "cowboy farmers" utilising tractors in a reckless model of shifting rather than "nomadic agriculture". A. Yahaya (1986) also refers to this aspect of "privatization fever" in Nigeria. Sustainable development is an activity requiring sound public policies and planning, it cannot be reduced to a crude sum of individual entrepreneurial actions with (in the long run at least), large net costs to African countries and peoples.

EXCERPT TO BE INSERTED AS THE INTRODUCTION TO PART TWO

A survey of development policy documents reveals that there are at least four broad categories. First, there are the "country strategies" produced by important bilateral donor agencies, USAID for example. These are not relevant to our analysis. Secondly, there are those that arise out of multilateral organisations (the host government being a member of such organisations). The FAO and the International Labour Office (through the "JASPA") Program), for example, have laid emphasis on rural development strategy formulations. The 1979 Somali rural development strategy discussed below, was fairly influenced by the FAO's "technical assistance". Thirdly, there are those documents such as national plans which are prepared by official national experts and they reflect national government priorities. At the subregional level, the IGADD Plan of Action, discussed below is such an "official" document involving intergovernmental experts. The IGADD founders also insisted on relying only on African consultants for the preparation of all basic documents including the first Plan of Action. The fourth category involves documents that result from national conferences, initiated by local efforts involving a broad coalition of interests. The 1985 Conference to revise Somalia's rural development strategy is an example of this type of policy assessment. The OTA model should encourage such initiatives. In fact, in the future, to avoid having the low-resource agriculture model beging "imposed" on Africans by the AID bureaucracy, it is very important that, especially since many important African experts, have indicated broad agreement with the model to encourage, their efforts and initiatives aimed at injecting the LRA model as a significant aspect of their own countries' policies.

colors other African regimes, as illustrated by the Nigerian and Sudanese (under Nimeiri) experiences cited below.

31. The radical thesis within Africanist debates argues that colonial capitalism has distorted African historical development. According to Franz Fanon, Amilcar Cabral, Walter Rodney, Samir Amin and other Marxist and neo-Marxist exponents (expatriate and African), colonial capitalism has led to urbanization without industrialization, to class formation without the crystallization of an authentic productive bourgeoisie, proletariat or even peasantry. The more subtle and yet exploitative mechanisms ushered in by neocolonialism following formalist independence, continue to perpetuate these distortions under what the Latin American theorist Andrew Gunder Frank calls "lumpenbourgeoisie and lumpendevelopment". What is necessary is a radical break from the world capitalist system under the leadership of a revolutionary elite and vanguard party. (See Sara Berry, June 1984; also Kidane Mangisteab, 1985). This was a popular thesis in the late '60s and '70s in Africa marking the rise of several radical socialist oriented regimes. Apart from Ethiopia, most of such regimes have since cooled off their rhetoric as a result of confrontations with worsening internal and external realities. "The causes of the problem according to the neo-Marxist perspective, largely lie in the position that Africa occupies within the international division of labor, i.e. in Africa's dependency and in the production relations that predominate in Africa...Implied in this analysis is that either the producers in

the food sector are deprived of resources and thus are not capable of generating surplus or, if a surplus is generated, it is extracted from the producers through rent, taxation and pricing mechanisms, leaving little to be plowed back to this sector. The economic classes that appropriate the surplus either invest it in other sectors or waste it in unproductive consumption, leaving the food sector to stagnate." (Mengisteab, 1985). This view has not been articulated by the respondents analyzed above, though it is often articulated forcefully in African studies conferences abroad. (For example, ASA, Madison, November 1986, see Ahmed and A. Samatar, 1986). Africans involved in practical development work at home are less likely to project this overly theoretical (some expatriates carry it to the sterility of a scholasticism) orientation. (see Berry, 1984; F.Cooper; Jon Kraus, 1986; R. Green, 1982; R. Sandbrook, 1986; B. Grier, 1981; Leroy Vail, 1983; Hyden, 1980).

32. African policy documents, by and large, do not reflect the dependency debates in a clearly manifest manner. An examination of selected documents follows, beginning with the Botswana National Development Plan.

33. Since gaining independence in 1966, Botswana has had five National Development Plans. The current plan NDP6 covers the period 1985-1991. Previous plans relied heavily on "project" intervention. The_ NDPG recognizes that a "project" is not necessarily the appropriate solution to every problem. It reflects the government's intention to devote more attention to

other ways in which it influences the economy - though price incentives, monetary and fiscal policy, laws and regulations.

34. The National Development Plan 1985-91, like its five predecessors, has four main planning objectives:

- -Rapid Economic Growth
- -Social Justice
- -Economic Independence
- -Sustained Development.

However, according to the document, and in recognition of the serious drought and food deficits afflicting Botswana, the government has decided to give the highest priority to productive employment creation and rural development. With regards to rural development, the Plan emphasizes:

- -National Food Strategy/Drought Relief;
- -Communal areas planning and development;
- -Improvements in national extension services.

Agriculture is the key sector within rural development, specific measures include greater encouragement of small-scale and arable agriculture with emphasis on diversification beyond the beef industry. Among projects to be stressed are those that are intended to have only minimal recurrent implications for government (like irrigated agriculture, and will not require much recurrent growth. Even though mineral exports have resulted in agriculture, no longer being the largest sector of Botswana economy in terms of contribution to GDP, and in spite of rapid urbanization, four-fifths of the total population are still rural and agriculture production remains the core of the rural economy. The broad strategy for agriculture development involves:

-The provision of adequate assistance and incentives to all those seeking to increase agricultural output, particularly resource-poor farmers (emphasis, mine). Increased food production will be encouraged to increase self-sufficiency at both the household and national levels." (NDP, p.187).

35. Specific measures involve non-farm investment packages involving draught power, implements, water tanks, fencing intended to promote increases in subsistence farming productivity. Farmers who own fewer than 40 cattle and plough less than 10 ha. are eligible to apply for such packages; the program is intended to reach 11,000 farmers, 17 percent of the total farming households in Botswana, over a five year period. Another program measure aimed at overcoming constraints facing small subsistence farmers is the Small Projects Programme which provides grants to community groups to improve or establish village infrastructure and productive activities related to agriculture such as horticultural projects, poultry projects, fishing groups, erection of drift fences to prevent cattle destroying crops, and construction of storage and marketing facilities for crops and agricultural inputs. During the fifth plan, NDP5, the maximum funds available to groups within this program was P5,000; this, according to the NDP6, will be increased to P15,000. The Ministry of Agriculture has adopted a farming systems approach to arable research with particular

reference to the small resource-poor farmer. A farming system approach, based on the idea that in order to increase agricultural productivity, it is first necessary to comprehend all existing aspects of production is highly compatible with the LRA model.

36. Botswana has also adopted a National Food Strategy and, as a member of SADCC, is involved in a sub-regional food strategy coordinated by Zimbabwe (one of the few food exporting countries in Africa). Given its fragile agricultural climate and resources, Botswana places great stress on the issue has held a major conference on the topic and issued publications and recommendations. Drought relief measures were implemented on an unprecedented scale, so that farmers, and rural dwellers generally, were cushioned from the droughts' worst effects and the chances of recovery when the droughts broke were considerably increased. Effective planning and management capacities helped Botswana and Kenya experience less vulnerability to the 1984-85 drought that devastated several other African countries.

37. Nigeria offers an interesting contrast. During the 1970's and 1980's, petroleum revenues twisted Nigerian development policies and made them dependent on the country's financial capacity to support import oriented development strategies. The crisis in agriculture also had its origins in the collapse of peasant-based commodity production which in the 1960's, employed about 75 percent of the population and contributed about 60 percent of the GDP. It also brought in 70 percent of foreign

exchange from exports of groundnuts, cotton, palm oil, cocoa, etc. In the 1960's, Nigeria was also relatively self-sufficient in the staple foods consumed by its people. At present, even though agricultural employment stands at 65 percent of the population, the sector contributes only 20 percent of GDP and brings in less than 4 percent of Nigeria's foreign exchange as a consequence not only of petroleum sector pre-eminence but because of a very serious decline of food and cash crop production. (Yahaya A. Abdullahi, 1986, p.3)

38. As a reaction to the crisis brought about by declining petroleum revenues and inabilities to support rising food imports, Nigeria began to launch urgent agricultural development policies. An analysis of the 1981-85 Nigerian Development Plan shows that considerable amounts were targeted towards the agriculture sector. The government also launched campaigns under slogans such as Operation Feed the Nation and later, the Green Revolution. To pursue its objectives, the government relied on major project interventions: the World Bank Assisted Agricultural Development Projects (ADP); the River Basin and Rural Development Authorities (RBRDA) and Fiscal and Subsidy Programmes to create incentives for farmers and the entrepreneurs to encourage them to invest in the agriculture sector.

39. The ADP projects narrowly focussed on technological package inputs to raise production. However, as some inputs were very expensive farmers adopted only those that were both cheap and could fit well within their traditional cropping patterns. The

ADP also had no close links with local research and extension institutions. The major large-scale irrigation strategy ran into problems due to problems of maintenance and replacement costs of structures and equipment (recurrent costs) which increases dependency. The schemes led to incredibly high costs of irrigating one hectare of land, about 5 to 10 times more than in the U.S., Israel or India. In semi-arid regions, large dams increase rate of water loss through evaporation. Yahaya A. Abdullahi concludes: Most of the projects and institutions administering the agricultural development process became the means of siphoning investment capital out of the agriculture sector, and into the coffers and private accounts of a narrow circle of individuals and private foreign and domestic firms. The country was left with idle and broken down machinery and dilapidated structures." (Yahaya A. Abdullahi, p.26).

40. Nigerian and Botswana both adopted policies and plans emphasizing agriculture and aimed at small-scale farmers. Botswana chose to de-emphasize project interventions and stress specifically targeted small-farmer programmes. Nigeria opted for major project intervention relying on inappropriate high cost imported technology. Conclusion: it is necessary to go beyond an analysis of the policy documents and plans to examine the modalities adopted to implement the plan including critical issues as projects vs. other forms of interventions, choice of technology etc. Here we have two countries with more or less similar objectives, one fails badly, the other succeeds, at least

modestly, on account of the specific modalities adopted to implement the objectives.

41. Somalia offers another interesting contrast. It represents, in a way, a typical "soft state", i.e. a state lacking the financial, managerial (including trained human resources), technological and physical infrastructural resources to implement its state objectives (national plans, strategy papers, etc.). The government that came to power in 1969 declared its orientation toward radical transformations and in the 1970's mounted major programmes in the form of national campaigns: to write the Somali language and spread literacy in urban and rural areas; to expand rural health and education services; to improve livestock health and management; to launch agricultural crash programmes (state farms); to construct a large number of infrastructure projects through the self-help movements and to combat moving sand dunes, control land degradation, and plant trees. Following the 1974-75 drought, a resettlement programme for the nomadic population made destitute by drought was undertaken in agriculture and fishing areas.

42. The new government's first Five Year Plan 1974-1979 (FYP) was launched in 1974. It was an ambitious document targeting government interventions in all sectors of the economy with a relative emphasis on import substitution industrialization. The rural development movement outlined above was not incorporated into the official plan document. Various natural and man-made crises (drought, conflicts) seriously interfered and cause the

FYP to fall far below its expectations. For example, the Plan called for better data collection for improved future planning, a national human and animal census was therefore undertaken for the first time in the country's history, but was all but abandoned on account of the 1974-75 drought.

43. With the encouragement and assistance of FAP, Somalia held a National Conference on Rural Development Strategy in 1979 which led to the proclamation of an official paper entitled Somalia's Rural Development Strategy 1981-1990. The paper declares that the main objectives for rural development during the coming decade, and especially for the period of the new Five Year Development Plan 1982-1986, consists of the following:

-increase food production, especially cereals, and improve nutrition levels;

-increase social services such as health, education and availability of water;

-increase rural participation;

-reduce rural poverty.

However, the actual 1982-1986 FYDP did not attempt to integrate the detailed recommendations of the National Rural Development Strategy (NRDS). The latter had a low resource agriculturalists, herders and fishermen emphasis and favored integrated rural development projects some of which have materialized only recently with funding from UNICEF and 1FAD while the official FYDP, though, unlike the previous one, considerably stresses agriculture as a major sector of emphasis, continued to rely on the hope of attracting external financing and technologies of scale for narrow sector oriented agricultural development projects. The fact of having two official development documents, parallels to each other yet uncoordinated together, is not only confined to Somalia, it is quite prevalent in a number of African and other Third World experiences.

44. Unlike Nigeria with its petroleum earnings, and unlike Botswana with its mineral exports that have allowed it to finance both the administration and extension services, but also infrastructural programs (roads, health, education) targets toward rural populations, Somalia has no such export resources. After some encouraging progress in 1983, the economy grew at a lesser rate than population in 1984. Exports of live animals, which had been Somalia's main source of foreign exchange, decline steeply because of a ban on Somali cattle in the chief traditional market. This left Somalia with a sharply reduced capacity to finance essential imports and the government found itself unable to meet debt service obligations.

45. Accordingly, a bitter series of calamities, some natural or otherwise uncontrollable, others man-made, has laid waste to the execution of plans since the beginning of the 1970's. Droughts, the fallout from regional conflicts, war and big power politics, pressure of refugee populations, abrupt shifts in labor and livestock markets and fiscal crises have followed one upon the other relentlessly. Government, with international assistance, has shouldered an enormous burden of responding to these crises,

but some new catastrophe seems to appear just as the last one is getting under control. Inevitably, therefore, the government has been reacting to unplanned situations much more than pursuing its own strategy policies and planned objective as stated in official documents.

46. This realization has led to an internal (rather than donor initiated) reassessment manifested in the 1985 National Conference to Revise Somalia's Rural Development Strategy which resulted in a revised NRDS 1985-1991. The new document puts a great deal of emphasis on "food first" policies and strategies. While many things need to be done, the new document stresses on those that can be done in the new future, the medium term and the long-term perspective. It lays great stress on the three-fourths of all Somalis who are still dependent on livestock. The crop sector, especially irrigation, is viewed as complimentary to the much more vast pastoral sector rather than overwhelming it in attention and resource allocations. The government has faced its limited capacities and has come to rely on the vigor of small-scale private sector activities, both those for profit and especially those within the (relatively not for profit) cooperative and voluntary sector spearheaded by the organizing efforts of international and indigenous private voluntary agencies (PVOs). The new document revises the previous reliance on large-scale refugee and drought resettlements and outlines a systematic drought contingency plan as in the case of Botswana mentioned above, and also stresses Somalia's role within the

newly formed sub-regional Intergovernmental Authority on Drought and Development (IGADD). The low resource agriculture focus of the revised strategy emphasizes, among others, the following points:

-research units to expand technical and economic research into small farm systems, crops, and appropriate technology and increased reliance on the improvement of traditional agricultural/livestock systems and methods;

-settlements, including settlements of drought victims and refugees, should be seen as a component of the overall rural development strategy and should, ideally, be low cost and minimally assisted to promote self-reliance;

-an added recognition of the crucial role of women in food production, water provision, fuelwood gathering, family education, health and stability, women should be the focal point in the new strategy for government programmes and research;

-with regard to women-oriented interventions, it is easier and considered more effective to initiate and/or strengthen programmes within settled communities and use these as disseminating points to pastoral (nomad) women;

-tree planting, community agro-forestry, and fuelwood production, along with much greater attention to combatting soil erosion and to stabilizing sand dunes;

-mixed low resource farm production, especially as it integrates livestock rearing with farming, poultry and beekeeping, cottage industries, and (where possible) fishing;

-construction and maintenance of feeder roads as well as strengthening linkages between rural areas and regional centers;

-strengthening the self-help movement in rural efforts, extension and training as well as cooperative capacities;

-indigenous PVO's, both those rooted in time-tested community processes, the newly formed national intermediaries as well as the local affiliates of international organizations, should be encouraged and trained to develop the capacity to assume leadership of PVO activities in Somalia.

47. In order to facilitate some of the objectives stated above, the government recently signed an U.S. $18 million five year PVO Partners Project, an umbrella project providing $50,000 or less community grants and (above $50,000) medium-sized grants for international (mostly U.S.) and indigenous PVO initiatives with the long-run stated objectives of implementing the strategy of strengthening and increasing the numbers and roles of indigenous PVOs. These revisions have also been felt at the formal planning levels. The Ministry of National Planning did not issue a new five year plan based on over-ambitious targets as it had done previously. Instead, it issued a National Development Strategy and Programme (1985) and, like the case of Botswana mentioned above, it eschews emphasis on new large-scale project interventions and stresses the need to rely on other macropolicies and incentives to stimulate production: "In general, investment will be concentrated on the completion of on-

going projects and rehabilitation of idle or underutilized capacities. Some new investments will be made in projects that are quick-yielding and profitable or have social impact. The capacity to cover the recurring costs generated by a project will be a factor in project selection. Financial and physical monitoring of project implementation will be improved." (NDSP,p.26).

48. Like Zimbabwe, Kenya inherited a white settler large-scale modern farming sector that produced for exports. It has been successful in facilitating the entry of small-scale African farmers who grow large amounts of crops, such as coffee and tea, previously considered suitable only for large-scale plantation. Kenya has better management capacities and, within the African context, it is much less a "soft state" as in the case of Somalia and the greater number of African states. It has a better data base suitable for macro-economic planning. The Kenyan Development Plan 10984-1988 is the fifth since independence twenty years ago.

49. The Plan recognizes the "crisis" in its Preface: "The country has had to absorb a number of international and local shocks such as the oil crises of 1973 and 1979, the world recession of the early 1980's and the droughts like those of 1979 and 1980." (Kenyan Plan, p.xi). The 1984 drought which Kenya managed remarkably had not occurred when the fifth plan was adopted. Nevertheless, "The current Plan has had to be made against the background of a world recession which has split over

into Kenya in terms of our balance of payments crisis and serious debt service ratio. From 1976-77 when Kenya's debts service ratio was merely 2.8% it has now risen to over 13% of the Gross Domestic Product. This presents a major strain on the economy and has led to the theme of the mobilization of domestic resources for equitable development which underlies this plan...(in addition) we are implementing the policy of making the district the focus for development thereby bringing the people into the forefront in their own provision of things for their own welfare...Another main area in which we are asking the people to cooperate in our strategies is that of cost sharing...We will continue to pursue policies endorsing our traditional stand as a mixed economy..." (pp.xi and xii).

50. The agricultural Strategy of the Fifth Development plan "include food production, growth in agricultural employment, expansion of agricultural exports, resources conservation, and poverty alleviation." However, policy makers have become acutely aware of the incipient imbalance between food supply and demand caused by the pressure of a rapidly increasing population "and, therefore, a major strategy of the Fifth Plan is to maintain broad self-sufficiency in basic foodstuffs." (p.177). Among other pro low-resource agriculture measures outlined:_ "The smallholder mechanization project emphasizes the use of locally-manufactured hand and ox-tools to ease labor bottlenecks and facilitate the introduction of improved husbandry practices for small farms...small stock development - poultry, pigs, sheep,

goats and rabbits (including beekeeping, honey and honey products)...arid and semi-arid land programmes..." (pp183-185). Kenya has also issued national strategy papers on food policy. One of these stresses the "efficiency and equity" of the Plan, the other, influenced by the World Bank engineered conditionalities and "privitization", fever stressing the need to concentrate on land-scarce fertile areas at the expense of the larger arid and semi-arid low-resource agriculturalists zones. Policy debates, tensions, zigzags surrounding the perennial trade-off, efficiency vs. equity manifest themselves in Kenyan as in most other African policy documents and debates. Nevertheless, the 1986-87 National Budget reflects increasing public spending for agriculture. Incidentally, the coordination between five year planning estimates and yearly budget plans is another key indicator of state management capacity. it is relatively efficient for Kenya, less so for Somalia and almost non-existent for a number of other African states.

51. Uganda, which used to have plans, has been devastated by internal conflicts and wars. The Ugandan economy and infrastructure have been devastated by the events of the past several years. Accordingly, successive Ugandan governments have been issuing tentative Rehabilitation Programmes rather than formal, systematic plans as those of Botswana and Kenya. Uganda is unusual among African countries in that there are good resources of hydro-electric power as well as well-dispersed rural fuel resources. However, the key development policy for Uganda

is the policy and ability to attain peace and political stability; this is the priority policy equally valid for the majority of the low-resource agriculturalist as well as for all Ugandan strata and groups. The semi-arid areas of Uganda, located in the north and east have been hit by drought in 1979-80 and 1984-85 but the severity of the famine with many deaths was also a consequence of war hindering national and international relief efforts. The Ugandan economy the "magendo", of black market sector predominates and is beyond government planning exercises.

52. Internal tensions, the war in the South, have also hindered both Sudan's planned development efforts and put serious constraints to the international relief efforts connected with the 1984-85 drought and its aftermath. The Sudan's *Six Year Development Plan states that "a vigorous and prosperous agriculture sector should be the cornerstone of the Plan...agriculture has been allocated 32% of total public sector investments...Irrigation constitutes the most important single input for the agricultural sector and will continue to absorb a large part of development expenditure until such time as the share of Sudan in the Waters is fully utilized."* (Six Year Plan, p.1). *An analysis shows a bias for imported large-scale technologies hoped to be paid for by Arab petrodollars as Sudan sought to project itself as the breadbasket of the Arab world. The Plan recognizes the crisis that led to Sudanese dependency on "imports for its supply of sugar, wheat, rice, tea, coffee,*

cotton textiles, sacks and a number of other food items. These essential imports consumed the bulk of foreign exchange earnings, leaving limited amounts for investment in development requisites like farm machinery and fertilizers." (p.2). The Plan does not view the low-resource agriculture sector as an historical given and time-tested resource whose primary role is to assist in the gradual transformation of agriculture and promote overall national development. On the contrary, it is bluntly viewed as a major constraint to be overcome by a top-down high cost technological approach: "Certain features of agriculture, such as the large number of small independent production units, subject to the biological rhythm of nature, ecological constraints and with critical dependence on weather conditions, make agricultural production relatively unpredictable. Massive public sector investments are, therefore, needed to achieve and sustain a reasonably high rate of growth in agricultural production." (p.1). Since the overthrow of the Nimeiri regime, the new Sudanese government has been preoccupied with political instability, conflicts, relief and rehabilitation measures and has not yet ad the will or opportunity to launch a new development strategy/plan. (Sudan has produced excellent regional level resource maps depicting the environmental context for future regional and district levels planning based on community efforts).

53. The emphasis of large-scale government interventions, utilizing ideology/mass mobilization rather than large infusions

of petro-dollars, was carried out by Tanzania under the Ujaama Villagization Programme. Rampant interventionism, the projects-writ-large approach has been termed "the blueprint approach". (Goran Hyden, 1983;1986). Unlike the more or less indicative planning exercises of Kenya and Botswana, tanzania took the positivist spirit behind development planning to extreme limits. "the frustration of failing to control peasant production has caused many governments to resort to capital-intensive, large-scale farming or complex settlement schemes in which producers are treated as tenants. Direct government involvement in development projects of this kind,however, has generally proved no more successful, as even in these production settings, and the "autonomous" peasant has prevailed." (Hyden, 1983, p.75).

54. Failures in pushing through blueprint models have led to worse aspects of the "informal market system" and the further softening of state capacities.. Recently, like Somalia, Mozambique, benin,Burkina Faso and other previously interventionist states have been obliged to revise their policies and limit state efforts while tolerating more private and voluntary initiatives. Angola, unlike Mozambique, has petroleum revenues to cushion it from the devastations brought about by an overextended soft state.

55. Possibly, the only African state pursuing doctrinaire socialist interventionism is Ethiopia. A history of terrible semi-feudal structures have given revolutionary rhetoric in Ethiopia a certain ring of concreteness and equity (land

reforms). the Haile Sellassie regime did not issue systematic five year plans as many other countries of post-independent Africa. Thus, the new Ethiopian government is in the phase of waging campaigns, settlement programmes and top-down creation of cooperatives and state farms. They have begun to lay down the bureaucratic basis for a major central planning apparatus modeled after the USSR's Gosplan. Meanwhile, they have only issued a tentative 10 year prospective plan (more like a strategy paper) while the basis is laid for a detailed socialist planning model. Already, some of the problems entailed in a socialism-from-above cooperativization are indicated in Fassil G. Kiros' analysis, "...only about 10% of the cooperatives have officially registered implying that the large majority have yet to meet the criteria for registration provided for in the Policy of Agricultural Producers' Cooperatives. Hence only a tiny proportion of the peasantry have been effectively organized into producers' cooperatives in spite of the campaigns to accelerate socialization of production in the peasant sector...In 1983-84 cooperatives contributed less than 2% of the area under cultivation. In contrast, the individual cultivators in the peasant sector produced close to 95% of the total output on 94% of the area under cultivation. The performance of the state farm subsector has also not been impressive. Of the total area of land under cultivation in 1983-84, the share of state farms was about 2.4%. And their share in total production was estimated at 3.2% during the same year...the state farms absorb a large proportion of the government financial resources and inputs such as fertilizer. For example, in 1980-81, nearly 53% of the total national fertilizer supply and 79% of the improved seeds were consumed by the state farm subsector." (Kiros, November 1986, p.10). In the name of the peasant majority, Ethiopia seems bent on pursuing a state farm oriented bimodal strategy.

56. Six Eastern African states began meeting regularly from early 1985 until January 1986 when they held their first Summit to launch the Intergovernmental Authority on Drought and development (IGADD), with headquarters in Djibouti. The other five founding member states: Ethiopia, Kenya, Somalia and Uganda. The Summit was also significant in that it initiated the first direct talks between Presidents Barre of Somalia and Mengistu of Ethiopia aimed at eventual easing of tension between the two member states. IGADD also provides a forum for easing other tensions, such as those between Sudan and Ethiopia. Nevertheless, the main objective of establishing IGADD is "to coordinate and supplement the effort of Member States to combat the effects of drought and other related natural disasters and to assist their development efforts as well as help them to deal with problems of medium and long-term recovery and rehabilitation." (IGADD PLAN of Action, hereby to be referred to as IGADD, p.4).

57. The IGADD documents are important for several reasons: they were prepared exclusively by member states experts, assisted by two UNDP provided african consultants; they were prepared

recently and therefore they reflect a significant response to the African agrarian/development crisis; they benefitted from and incorporated key aspects of previous strategic African documents: the Lagos Plan of action for Economic Development of Africa; the Declaration on the Economic Situation in Africa adopted by the 21st Summit of the OAU in Addis Ababa (July 1985; the Resolution of the Ministerial level Cairo "African Environmental Conference" (1985), the Special Memorandum by the Economic Commission for Africa (UN) Conference of Ministers on Africa's Economic and Social Crisis (UN, ECA, Addis Ababa, 1984), the Second Special Memorandum by the ECA Conference of Ministers: International Action for Relaunching the Initiative for Long-term Development and Economic Growth in Africa (april 1985), the FAO sponsored Regional Food Plan for Africa (AFPLAN) as well as the United Nations Environmental (UNEP) Plan of Action to Combat Desertification adopted in Nairobi, Kenya, 1977. IGADD was also able to benefit from rich experience and documents of CILSS in West Africa (Sahel countries) of the SADCC states in the South.

58. While the creation of IGADD symbolizes the collective will for joint action, IGADD documents manifest crystallized African experience and wisdom. Our analysis utilizes at least two of the questions posed to African experts discussed earlier in the report. How does IGADD view the "agrarian crisis"? The IGADD Strategy Paper prepared by the experts as background to the Plan of Action lists most of the factors outlined earlier. The IGADD Plan sums it all up in a few sentences. First it begins with a

vision of the future: "The States of Eastern Africa today face serious challenges, while collectively, they possess a wealth of natural and human resources and potentially great opportunities to combat drought and promote development. Most of the States of the sub-region have the physical resources to grow enough grain to feed their people and have some surplus for export:S" Then it goes on to sum up the reasons for the "crisis" : "In recent years, however, grain production has fallen even below national requirements. drought has been a key factor, along with population growth and several other national and international constraints, which have all contributed to the present crisis." (IGADD, p.i).

59. How does OTA's model of "low-resource agriculture" and "low-resource agriculturalist" fit with the IGADD Plan? To answer this question, selected aspects of the IGADD action measures will be highlighted for specific illustrations. However, in general, there is a lot of common ground for agreement. To begin with, IGADD stresses food security and production systems for the rural majority. The Plan proposes measures to satisfy urgent immediate food and other basic needs for the hungry people as well as medium and long-term recovery, rehabilitation and development measures. it is recognized that droughts in Eastern Africa are frequent and a periodic occurrences and accelerate desertification of fragile ecosystems. The essence of the IGADD Plan are ten point measures for medium and long-term developmental actions:

1) Establishment and Improvement of Information and Early Warning Systems;

2) Food Security: Each member state is obliged to develop food security policy and establish food reserves. IGADD shall encourage the exchange of buffer stocks and surplus food within the region. At this point a key international policy reform question arises: Will the U.S.A. and the EEC facilitate this process, or will they continue to use their excess food aid in such a way as to frustrate and ultimately negate such objectives. A Zimbabwean respondent remarked that, as an ad hoc measure, the U.S. has provided Zimbabwe with food needs, (wheat) in exchange for shipping Zimbabwe's surplus maize to neighboring food deficit countries. Could this barter exchange be formalized as policy to aid food growers in Africa? Would the U.S. and EEC consider even giving "financial aid" (hard currency) to buy food from one African country and send it to another? If the latter is an impossible dream, how about the former food exchange alternative? IGADD documents show concern for the long-term negative effects of food aid,including the shifting of tastes (and demand) from African staples : "in some urban areas introduced foods now predominate: the accepted staple is maize flour, rice is a preferred cereal and wheat flour bread a sought-after luxury." (Joyce Redhead, 1985, p.17; see also Liberty Mhlanga, 1985). IGADD urges its member states "to develop and disseminate innovative and effective measures utilizing food aid that increases production in the productive sectors, especially in

agriculture, land and water conservation;

3) Crop Production: At this point, the IGADD Plan sums up other factors besides drought behind the food deficit crisis: "over-dependence on food aid, unbalanced reliance on cash crop production, unfavorable international and domestic terms of trade and incentive systems against food growing farmers. There is therefore the need to reverse these trends...". Among measures advocated: promoting research on and introducing drought-resistant crop varieties; strengthening seed multiplication activities; improving traditional and modern farming systems and techniques, food storage facilities and reduction of post-harvest food losses. In the long run member states are urged to "strike a proper balance among activities relating to export and food crop production, livestock, forestry and fisheries production." (IGADD, p.16);

4) Livestock Production: On this issue the IGADD Plan goes much further than the various national Plans (for example, even the most recent Somalia Plan, a nation dominated by pastoral low-resource herders) in redressing the balance by calling for increasing financial resources earmarked for livestock development." Other measures include: improving the collection, conservation and marketing of livestock/dairy products and to provide livestock infrastructures, credit facilities, veterinary services, balanced water points. Among the major large-scale livestock-range management projects that got started as a reaction to the previous 1974-75, was the Northern Rangelands

Development Project started in northeastern Somalia in 1976. (Kuwait funds). It utilized high technology: for example, too many landrovers and resulting fuel, spare parts problems, in a zone traditionally famous for horses. Recurrent costs problems were compounded by its top-down approach failure to win the support and involvement of the pastoralists. Conscious of such failures in countries of the region that have had considerable national experience since the 1974-75 drought, the IGADD Plan emphasizes that campaigns for better range management, the rehabilitation of rangelands and the control and elimination of livestock diseases must involve the participation of the population at large.

5) Fisheries Development: Djibouti, Ethiopia, Somalia and Kenya have Red Sea and Indian Ocean fish resource; Uganda, Sudan, and Ethiopia (and also Kenya) have inland lakes and river fish resources. The fishery sector potentially represents a major supplemental food source that is relatively unaffected by drought. It is possible to envision a future in which Somali sea fish are exchanged for Ethiopian grain.

6) Water Resources Development: The Plan stresses improvements in traditional water sources S(no mention of large irrigation dams): "...digging wells and utilizing easily accessible water resources (rock catchment, spring protection, the construction of lined-wells and small surface and sub-surface water retention facilities)within the context of proper environmental management and planning." (IGADD, p.10).

7) Energy Resources Development: Here emphasis is on renewable sources of energy: wind, solar. Wind, and possibly more in the future, solar energy are seen as potentially useful forms of energies for water-lifting, a priority need affecting the majority. There is also the call to rely on animal traction and to protect, manage and rationally use existing fuelwood resources. It is recognized that these issues are of particular importance to rural women who are burdened with the drudgery of fetching fuelwood, water besides cooking, child-rearing and engaging in productive agricultural activities.

8) Desertification Control: Several detailed measures are outlined in Plan including prevention of soil deterioration, combatting sand-dunes,overgrazing, improper irrigation. More and more, experts have come to realize that many of the traditional species and agricultural practices superficially considered "backward" are in fact more in harmony with the African environment, accordingly the Plan recommends the provision of various measures and farming methods aimed at soil conservation and prevention or erosion. All this is in concordance with the OTA model.

9) Infrastructural Development: The lack of transport and other communications facilities hinder not only relief efforts, but more significantly, longer term development efforts. It is a contributing factor to the imperfect market conditions that afflict low-resource agriculturalists causing him to sell prices of food (and other crops) are low and to buy food when prices are

high. This is an arena for a lot of cooperative joint ventures, especially on roads that interconnect the countries, thereby also opening up remote, inaccessible parts of the connected countries (also sea, air inland port, storage facilities, etc.).

10) Manpower, Training and Research: The IGADD Plan focusses on these issues within the context of institution building. The countries have research and training facilities that are regional in scope and orientation and those that are national and local. Coordination is necessary, long-range animal and crop species research developed at a few of the advanced centers, need to be readapted in national and positive results disseminating through local centers, extension services and farming system research approaches. The Plan also advocates expanding and strengthening informal educational programmes and training efforts aimed at improving skill of staff in rural areas at all levels including farmers, herdsmen and rural artisans with special emphasis on the implementation of training programmes for rural women. A number of the African (experts) respondents to the OTA derived questions have underlined the following issues state in the IGADD Plan as the need:

"-to support and encourage not only the formation, but also the long-run development and strengthening of appropriate local and national indigenous voluntary organizations"

"-to coordinate and supplement information and placement services, facilitating the identification and employment of experts from member states of the subregion and encouraging the development of indigenous consultancy organizations and services as well as facilitating the transfer and exchange of know-how, appropriate technology and the development of indigenous technology (emphasis mine) (IGADD, P.19).

60. The IGADD Plan differs from some of the other plans/strategies in specifying various means/methods (modalities) of implementation including training, better human resource development; technical resources including research; testing and experimentation; institutional resources. It emphasizes that the member states and IGADD can achieve a number of its objectives by utilizing legislative and economic policy (macro and micro incentives) measures. Finally, it mentions financial resources for its operations, programmes and projects the IGADD coordinating Secretariat is intended to be small and grow gradually according to its task. it is not, therefore, given a large expert staff with the incentive to conceive large projects. Another significant issue: after much debate, the IGADD Council of Ministers rejected the notion of giving the Supranational entity the power to negotiate loans, it is to pursue only international "grants". Only member states can negotiate loans for their own projects. Again, this limits its ability to obtain huge external financing. In a way, the debt burden seems to favor a unimodal strategy which includes low-resource agricultural farmers and herders. The bimodal strategy favors a small group of farmers or state farms to monopolize most of the

available financial resources and inputs, leaving the majority to survive on their own fragile resources. (Johnston and Clark, 1982). It is also possible that if the debt burden becomes excessive it may even pose problems for all development strategies/initiatives, whether bimodal or unimodal.

61. The IGADD Plan is rather unique for having jointly agreed upon guidelines for accepting or rejecting project proposals. These must meet the ten point priority areas described above and they must clearly indicate an "awareness and involvement of the target population groups." They must be in conformity and consistency with both the IGADD Plan of Action and member state national development plans. The projects must indicate long-range sustainability in terms of manpower, technology and financing. Just as we note in the case of the Botswana Plan and the revised Somali programme, the issue of local costs and recurrent funding after the phase of external financing is terminated. The proposed projects must be critically assessed in terms of their physical and environmental impact, availability of counterpart resources (cash or in kind), appropriate technological soundness and contributions to the strengthening of local institutional development.

62. The IGADD Plan, therefore, seems to be in favor of resource-conserving technologies, small-scale to medium scale, affordable (not excessively capital-intensive), locally (at least subregionally) produced and repaired, adapted to local labor and skilled manpower availability and supportive of traditional

agricultural methods. During 1986, IGADD has been preparing subregional and national projects to be presented at its first Donors Conference to be held in Djibouti (April 1987). The outcome will give an indication of whether IGADD has lived up to its initial promise and whether international donors (bilateral and multilateral) will respect IGADD's own formulated guidelines or whether they will use the power of the purse to export high-technology, capital-intensive, profit-maximizing orientation. The Donors Conference is a key aspect of the Plan, documents presented will be precise in terms of actual financial costs and implementation schedules.

63. The IGADD Plan follows in the footsteps of the Lagos Plan of Action and other African derived documents in differing for the key donor document, the World Bank Reports, with their emphasis on export promotion and narrowly conceived "privitization." The Lagos Plan, globalist in orientation, tends to state general rather than specific goals; it also falls into the pitfall of most initial planning exercises, of listing all that needs to be done rather than those that can be done given realistic expectations.

64. The OAU's African Priority Programmes for Economic Recovery (APPER) adopted in 1985 helps to provide concrete figures that were not included in the general recommendations of the Lagos Plan of Action. It is also more focussed on matters pertaining to drought and famine. APPER estimates that $128.1 billion is needed over the next five years to help Africa overcome the

crisis. The African states themselves expect to provide $82.5 billion and hope that the balance of $45.6 billion will be forthcoming from the international community.

65. The United Nations Programme of Action for African Economic Recovery and Development 1986-1990 goes over most of the ground detailed in analyzing the IGADD Plan of Action. There are minor points of emphasis and style. It is interesting to note, however, how African and other international officials describe the nature of the African crisis:

> The vulnerability and the fragile nature of the African socio-economic structures have now become fully apparent as a consequence of the dramatic effects of the drought...The persistent economic crisis in Africa has been aggravated by a combination of exogenous and endogenous factors. The endogenous aggravating factors include deficiencies in institutional and physical infrastructures, economic strategies and policies that have fallen short, in some cases, of achieving their objectives, disparities in urban and rural development and income destruction, insufficient managerial/administrative capacities, inadequate human resource development, and lack of financial resources, the demographic factors and political instability manifested, inter alia, in a large and growing population of refugees. In addition to these factors, many African countries have to contend with severely adverse consequences of the policy of economic destabilization perpetrated by the racist minority regime in South Africa and by its illegal occupation of Namibia. The serious aggravating exogenous factors include the recent international economic recession, the decline in commodity prices, adverse terms of trade, the decline in financial flows, increased protectionism and high interest rates. The heavy burden of debt and debt-servicing obligations also constrains Africa's prospects for economic growth.

66. The UN document does have emphasis on the need to assist LRA women. It also recognizes the need to radically transform African education system and help them better address the issues of sustainable development. It also stresses, correctly the need

to support subregional organizations such as IGADD, SADCC and CILSS. The document includes a very useful section on "South-South Cooperation" which is extremely relevant to issues of appropriate technologies and exchanges that in keeping with the OTA LRA model. For example "(j) Exchange of information and experience on appropriate agricultural policies and strategies." (p.18).

67. Other relevant sections of this important document include those calling on the international community to provide the funds estimated by the OAU (APPER). The document gives important suggestions on improving the quality and modality of external assistance and cooperation. Selected excerpts include the following:

> While it is recognized that each bilateral or multilateral donor as well as recipient has its own rules and procedures, there are some general areas in which changes can be usefully made. For an effective support of Africa's efforts, it is realized that the quality and modality of external assistance and co-operation need to be improved along the following lines:
>
> -Greater emphasis on programme support in the priority areas of the recipient African countries, with a view to giving an indication of medium-term support...
>
> -Speedier disbursement of funds...
>
> -Increase the concessionality, particularly the grant element of development assistance to African countries, with the purpose of improving the quality of aid to those countries...
>
> -In planning and implementing programmes of assistance, special consideration be given to the indigenous competence, expertise, experience, local conditions, particularly local techniques and equipment as well as to the training of qualified national personnel...
>
> -Donor countries and agencies should consider, as appropriate, measure to assist African countries, in meeting recurrent and local costs of programmes and projects...
>
> -Donor countries, international institutions and recipients should take into account the recurrent and local costs of new programmes and projects to ensure their viability.

PART THREE: TOWARDS PARTNERSHIP IN DEVELOPMENT

68. In this part I am expected to draw upon my own experiences and knowledge to make constructive suggestions for U.S. aid policy. To begin with, I do tend to agree with many of the suggestions made in the summary of the opinions of other African respondents. Having had the opportunity to be involved in drafting Somalia's rural development strategy papers (the 1979 original and even more actively, the revised 1985 version) as well as the IGADD Plan of Action for the subregion (Djibouti, Ethiopia, Kenya, Somalia, Sudan and Uganda) the main thrust and even some of the specific recommendations mentioned above represent some of my own independent perspective. In order to avoid repeating what has been noted elsewhere, permit me to focus on certain clusters of ideas, some of which may involve rephrasing issues touched upon before.

69. I do subscribe to the issues and options summed up in the OTA Technical Memorandum of December 1984. One key issue involves project/programme duration. I have had a lot of frustrations working in Somalia with donor projects (U.S. and others) where assumptions are made about devising new management systems in the first year of the project, introduce new technical inputs the next year, hasten new extension methods in the third so that "results" can be measured by the end of the third and possibly one extra year of funding. Africa can no longer afford

instant solutions that are really no solutions, or merely band-aids attempting to heal serious wounds. There is definite need to extend project cycles so as to permit a self-learning, constructive corrective process. it is also necessary to involve local experts, consultants so that their country's experiences can be evaluated by themselves.

70. Toward partnerships in development? The first thing we need is to respect one another and to see to it that we need each other and that this is a genuine two-way process. Reading USAID reports the tone is often like this: "USAID did this and that and evaluated itself and now had more information to do this and that to achieve greater success" etc. It really sounds like the voice of a World Ministry of International Development! We, we do not have a world government yet and the area of aid operations is not USAID's own backyard - it is within sovereign states, in different parts of the globe with cultures and peoples that are older than U.S. culture and society. The language of the future should be roughly like this: "USAID, working in support of project X undertaken by country Y gained the opportunity to learn this and that and having involved the local recipient and national institutions in the evaluations, hopefully as partners we can achiever better success in future. The point in short: respect the dignity, pride, laws and regulations of both public institutions and private groups in Africa otherwise the concept of "partnership" brandied at the UN Conference on Africa and among donors would turn out to be just that, another empty

slogans. The U.S. must also have the modesty to realize that compared to other donors, USAID is but one option, not a very significant one in a number of the countries.

71. There have been a number of changing developmental paradigms during the past twenty years. "The Public Sector", "Integrated Rural Development", "Human Needs", "Privatization", these are the maxi-slogans, one needs to aid the mini-slogans, often one needs to aid the mini-slogans, e.g. "agricultural inputs" etc. There is need to sort things out for consistency. There is also need to share blame as partners for what went wrong in the past due to a paradigm or political slogan that is no longer in fashion among donors (due to changing political regime, intellectual fashions or both).

72. Is the low-resource agricultural model another gimmick? What are its chances of being adopted by the Congress and implemented? Experience so far show that USAID is better at delivering infrastructural technologies for roads, airports, bridges etc. These are necessary and needed as indicated in the national plans, the IGADD Plan of Action and by the UN documents. The U.S. should continue to focus in those areas that it seems to be doing well and encourage other donors to do likewise, focus on the areas that they seem to be good at. U.S. agricultural universities have also proved successful at higher levels of training and research, they need continuity and readaptation.

73. USAID has done poorly in delivering assistance to poorer sectors in the Third World. Perhaps it needs a sub-structure

that specializes in smaller relatively more flexible programmes and projects. Donor aid is very much influenced by interest groups and lobbies in donor countries. Who is to lobby for the wretched of the earth? Obviously these are groups and individuals in the U.S. who are for self-reliance and sustainability in the Third World. They need to be analyzed and united into a pro-development coalition.

74. This hard-core realism leads me to suggest perhaps it is the PVO groups that represent a realistic lobby that would push LRA from a model into legislation into funded programmes. Obviously this is partly due to their own interests and their needs to survive. More and more PVO are becoming dependent on public bilateral and multilateral funds. it is important that they do not become overwhelmed by such funding as to lose their own autonomy and modalities of operation.

75. Why do we feel that PVOs may do the job? First of all, because they are already involved in Africa with all sorts of relief/development projects. Secondly, PVOs do have a self-interested U.S. lobby that could push through the constructive recommendations made in this report around the LRA theme. Thirdly, PVOs have characteristics that make the, potentially at least, desirable for the delivery of knowledge, funds and technical inputs called for by the OTA model.

76. Low-resource agriculturalists survive on flexibility and diversity and PVOs (or NGOs) claim:

1. They have high motivation to work in rural areas

and to work in a community-to-community and people-to-people style;

2. The diversity of their approaches to project implementation responds to the diversity of the needs in the countryside; (site-specific projects, research, etc.)

3. their flexibility allows them to change and adapt as needs change and grows;

4. their relative lack of bureaucracy allows them to respond to requests much faster than bigger donor institutions;

5. they are relatively effective in assessing local needs and building the community base-line information that is necessary for adequate programs;

6. they are committed (at least in principle) to animating the community to participate effectively in the development process; and

7. they are willing to assume greater risks to innovate new technology and techniques through experimentation that can be incorporated later into national planning, without tying up scarce governmental resources.

77. Nevertheless, given USAID's main failure in the past in the area of institution building (in spite of successfully training hundreds and hundreds of scientist, experts, technicians), the main role and national of all First World PVO/NGO involvement in AFrica should be institution building - building local NGOs/PVOs, cooperatives and other types of local level institutions. This is where partnership in development needs to be given the acid

test. Are U.S. PVO/NGOs interested in involvements that would end up requiring their declining future field role. They should be willing to become more and more, funding agencies, facilitating networking, information training and concentrate more and more on lobbying and educational campaigns to create a U.S. constituency that is willing to modify large scale donor bureaucracy to become truly responsive to resource poor (therefore powerless) vulnerable constituencies.

78. In this connection, perhaps the Declaration of Non-Governmental Organizations on the African Economic and Social Crisis (New York, May 1986) is perhaps more significant, if it is implemented, than the governmental declaration. That is why I felt it appropriate to include relevant parts of it here since they reflect my own fundamental conclusions.

79. Point number (7) of the Declaration states:

> In order that the African peoples seize the initiative to determine their own destiny, and in particular the specific situation of women, we propose the following.
>
> (i) That the African peoples should continue to expose the inequities of the present international political, economic, social and cultural order and call for a new international democratic order characterized by democratic participation in organizations and forums which make decisions directly affecting Africa.
>
> (ii) That the Northern and International NGOs vigorously support these demands.
>
> (iii) That African peoples reject development projects imposed by international agencies to serve external interests.
>
> (iv) That NGO programmes in Africa should be centered around long-term and sustainable development, even when emergency relief is also required.
>
> (v) That the production of food crops and the creation of dynamic linkages between agriculture and industry would be at the center of development policy and economic activity in Africa.
>
> (vi) That industrial development in Africa should be based on the needs, resources and expertise of the people, instead of

external demands, and that the needs of the poorest be considered paramount.

(vii) That development activities should take into account the locally available natural resources, expertise and local organizational structures.

80. On the critical issue raised above on relations between international (First World) and indigenous, in this case African NGOs, the Declaration states:

> We recognize that having considerable material and financial resources at their disposal leads Northern and International NGOs to the tendency of being paternalistic in their relations with African NGOs. We call upon Northern and International NGOs to be consciously vigilant against this tendency, and in particular:
>
> (i) recognize that among NGOs, African NGOs have the basic responsibility for African development;
>
> (ii) respond to the growing demand for truly African NGOs, by developing models which support the institutional growth and development of autonomous NGOs at the national level in the Third World, and re-orientate their activities so that Northern and International NGOs increasingly concentrate on development education, advocacy, fundraising and facilitate the North-North, South-South and South-North information flows;
>
> (iii) northern and International NGOs should not compete with AFrican NGOs in the implementation of projects in Africa but should play a supportive role to their efforts;
>
> (iv) northern and International NGOs should support a special fund for institution building, growth and development s well as strengthening the professional and technical competencies of African NGOs. Further, project funding should as much as possible contain an institutional support component;
>
> (v) northern NGOs should support a fund for information gathering, research, publication and the dissemination and exchange of such information;
>
> (vi) northern and International NGOs should guard against tying their assistance to the provision of personnel when in the view of their African partners, appropriate personnel are locally available;
>
> (vii) development has a cultural component, and Northern and International NGOs should ensure that all personnel have the cultural sensitivity to work at development projects, especially at the community level;
>
> (viii) development should be viewed as an integrated, long-term process and Northern and International NGOs are accordingly called upon to devote more resources and attention to long-term development, instead of concentrating on emergency situations and providing relief.

81. The African Development Foundation has been established by the U.S.Congress to deal with the issue of grassroots organizations. it has the specific mandate to work with African PVOs. it is not an operational or technical assistance agency, it is essentially a funding agency; accordingly it is not in competition for "turf" with African NGOs. It is able to facilitate their development and to enable them to constitute a continental network of African NGOs. PVOs tend to work at small, isolated levels. To have macro-policy impact, there is need to be a critical mass of African PVOs in each country, webs and chains of local, national grassroots and intermediary organizations that would organize and lobby for low-resource agriculturalists especially rural women. International and African PVOs may also serve as catalysts to create national rural development partnerships between community organizations, private sector institutions and government agencies a, a network that would allow micro-level activities to have significant macro-level impacts.

82. U.S. assistance must also be geared toward subregional organizations such as IGADD, SADCC, and CILSS. They reflect the political will to cooperate in spite of conflicts on the part of the African states. Their efforts can be encouraged or discouraged. The need to be encouraged, the crisis facing Africa requires efforts at all levels: building viable local organizations, streamlining state institutions (making than more efficient) and subregional cooperation to promote intra-African

trade, investments and movements of peoples and services. Assistance to subregional groups also allows USAID to be partially removed from narrow political interest and considerations. (A minister's "silly" remarks, as happened in Zimbabwe, would not automatically lead to cutting aid if the funds were allocated to IGADD, after all, if the Minister is Ugandan, for example, he cannot speak for IGADD a supranational entity consisting of six states). Assistance to subregional organizations and assistance through U.S. PVOs the ADF and local PVO allows the aid process to be long-range and developmental rather than short-range and arbitrary.

(viii) That the people of Africa should be allowed to enjoy full democratic rights and freedom to express themselves, to form associations and committees and to participate in them, in accordance with their legitimate economic, social and cultural needs.

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FINAL DRAFT

ENHANCING LOW-RESOURCE AGRICULTURE IN AFRICA

African Models of Developmental Assistance to Low-Resource Agriculture

by

Robert J. Cummings
Washington, DC

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A. INTRODUCTION

History

1. After almost thirty years of post-colonial political independence, continental Africa has yet to attain economic independence and development. This is true despite Africa's possession of tremendous natural resources of human and material wealth. To date, neither, however, has been applied primarily to meet the needs and purposes of Africans themselves. This fact has as much to do with political conditions as with economic ones, and with colonial history as with that of post-independence.

2. The roots of Africa's economic vulnerability are found in the legacy of colonial rule. "The issue of the relationship between food and politics did not arise with independence", Rene Lemarchand (1986) has observed. "[I]t lies at the heart of the policy choices made by European powers in their attempt to cushion the costs of their political hegemony and maximize the returns on their capital investments...In a way that few of its advocates anticipated, the [development of human and economic resources] has had a determining impact on the structure of African agricultural economies."

3. A careful evaluation of the colonial record proves that African food crises originated not only from adverse climatic conditions but also from policy decisions that, directly or indirectly, "profoundly undermined the viability of indigenous food systems. Clearly, the benefits derived from the development of new productive forces and infrastructures must be assessed against the human and environmental costs involved, including 'the loss of life, the loss of reliable and nutritious sources of food, and, more generally, the lost of many skills with which the inhabitants had learnt to turn their harsh environment to their advantage'" (Ibid.).

4. The forced cultivation of cash crops was the standard colonial policy through which Africans were forced to earn a taxable wage (to support the revenue-generating needs of the colonial state in Africa). This policy was implemented according to local requirements and with different degrees of severity. Yet it was this very policy which was at the root of what Michael Lofchie (1975) has identified as "Africa's agrarian paradox": "A continent unable to produce sufficient food to provide the majority of its citizens even a barely minimal diet has been able to record sharp increases in its annual production of agricultural goods destined for external markets". Indeed, one of the most severe cruelties of colonialism is its legacy of having potentially damaged African food systems irreparably, as a result of its impact on the decline of peasant commodity

production under the combined pressures of cash cropping and industrial capitalism. Another is colonialism's role in underdeveloping rural people, who have been "dispossessed of their traditional knowledge, language and way of life: of a voice in the structures that control and determine their lives" (O.R.A.P.: Zimbabwe, 1985).

5. The inherited colonial attitudes toward infrastructures did not assist politically independent African efforts to restructure agricultural patterns to meet contemporary challenges and needs. The colonial period created an artificial structure of economic growth that did very little to provide a solid foundation for the development of domestically-oriented African economies. The colonial administrators, moreover, made almost no investments in human capital, research on food crops, and the strengthening of internal market linkages. [There were 4 university graduates in agriculture trained in French-speaking Africa and 150 in English-speaking Africa between 1952 and 1963.]

6. "Political power at independence was transferred to African leaders who were generally perceived to be the potential indigenous middle class necessary to pursue, and implement, neo-colonial development strategies. These [new 'governors' of Africa's economies] tended to maintain the inherited transportation and communication systems, for example, as well as the inherited export-oriented models of trade and exchange, while assigning relatively minimal

government investments to new institutional arrangements designed to meet their respective national needs, for example, for the purpose of increasing agricultural (including food) production" (Cummings, 1986).

7. Politically independent African government leaders assumed colonial economic growth models without criticism or challenge and failed themselves to develop effective/appropriate national policies to deal with the technical, human, structural and institutional resource constraints most central to post-independent Africa's economic development. Most of these leaders' class interests were more closely attached to the export agricultural trade than to the domestic agricultural sector. They have tended to adopt economic policies that reduced the economic incentives to agricultural producers by shifting the internal terms of trade against the rural areas. Most post-independent African states, further, "have viewed agriculture as a backward and low-priority sector, have perpetuated colonial policies of pumping the economic surplus out of agriculture, and have failed to give priority to achieving a reliable food surplus as a prerequisite for basic national, social and economic goals" (Eicher, 1982).

8. Finally, these new national political governors of Africa were faced with the challenge of entering the world of political independence primarily in the 1960s when industrialization, intensive international competition, and

influence of the successful modern state were the order of the day. To compensate and somehow reserve revenues, food and agricultural policy was left to the purview of relatively low-level managers. This conclusion is suggested by the dearth of agricultural ministerial appointments throughout the continent in spite of the fact that more than 70% of the entire continent's work force is rural and agricultural.

9. Shocked by the magnitude of world politics and economics from the inside while recognizing that they must run while others walked, many African leaders sought to advance economic development beyond the inherited colonial pattern of economic growth. This was to be done, unfortunately, by using the foreign exchange acquired from the export of agricultural products to finance internal industrial development, leaving domestically-focussed low-resource agriculture, the sector with the least political power but the most economic potential, to its own fate.

10. Ghana, which acquired independence in 1957 with almost two billion dollars in foreign reserves from cocoa sales, set the pace. Africa generally committed itself to an export market strategy until 1967 when the leaders of Tanzania broke ranks and embarked upon a new course of economic action, that of self-reliance.

11. Rene Dumont, in his False Start in Africa (1962), warned of the potential dangers of the internationally-

supported import-substitution economic strategy chosen by African leaders at independence. This strategy only acknowledged the domestic market while actively pursuing basically the mirage of the foreign market, but without the local market ever receiving support sufficient enough to compete or meet demands. The interdependent market strategy, however, is most compatible with U.S.-African economic interests because it serves to increase the share of both the domestic and foreign markets. Yet there are problems (illustrated by the history of top-down development methods) which must be confronted and solved if both sets of economies are to receive long-term benefits.

12. Low-resource agriculture is directly affected by the choice of borrowed-strategies used by African governments. Many argue that there is still more tragic, visible poverty and hunger, for example, in Kenya and Ivory Coast than in poverty-stricken Tanzania because the economic gaps, the unevenness of development, are so vast. The market system development strategy, for Africa, must be questioned further regarding just how far it can be used to transform African economies without bringing alone its attendant baggage of economic injustice. This dilemma can be met only if equity is plugged into the development strategy and the economic system itself.

13. This is further complicated by the fact that various African scholars, planners, and policy-makers have come to

feel that the economy simply cannot have equity in the system without direct government intervention or considerable state presence. This feeling exists even though it is recognized that the African state, paradoxically, has become one of the primary corrupting forces of African society.

14. An alternative development strategy to the purely market-based system is embodied through implications in the various African-formulated documents. Together they call for the reconstruction of African economies, based on principles of national and collective self-reliance and self-sustaining development. The strategy involves increasing the share of the industrial sector in GDP, internalizing sources of capital equipment and raw material inputs, and dramatic changes in the composition and patterns of trade. Due to the variations in local and national resources and geographies, and the small size of most African states, regional and subregional cooperation is encouraged in several fields to complement internal self-reliance. Specific efforts and goals in this direction are embodied in the establishment of the Economic Community of West African States (ECOWAS), the Preferential Trade Area for Eastern and Southern Africa, the Economic Community of Central African States, and the Southern African Development Coordinating Conference, among many other specific African-created organizations [i.e., Africa's groping attempts currently at preliminary structural

"transformations", as opposed to the inevitable fundamental structural changes].

15. These organizations are examples of continental African leaders' recent strides to reverse Africa's long-standing economic downward spiral. Many are seriously searching for economic developmental models which will provide the appropriate planning and policy devices for a continent clearly in severe crisis. Economic development theory, then, has run full circle. As the high expectations of the post independence decade (1960s), inspired by the exaggerated claims of the imports-substitution industrialization theory, soared into failures, African leadership began to distrust economic orthodoxy. Trusting only their political instincts, and obeying few laws, even as they hired many more economists, many African leaders sought solutions by mounting a number of untested transformation strategies. The experiments failed.

16. A basically agricultural continent can no longer feed itself, lacks the foreign exchange to import food, and is critically crippled under the strain of its debt burden. The economic frustrations of the 1970s and the disillusionment of the 1980s have combined, paradoxically, to force African politicians and policy makers to recognize (a) that it is no longer sufficient to bemoan the colonial legacy, for such a response, absent of meaningful

concentrated action, simply has not resulted in any new realities for the continent; and (b) that the small scale African farmer, the least considered possibility over the last quarter century, may be the key to African economic development.

Developmental Strategies

17. African leaders in the decade of the 1980s have sought to revise the debated questions of a quarter century ago -- (a) appropriate priorities, (b) relevance of western models, (c) pricing and taxation in agricultural objectives, (d) agrarian socialist vs. agrarian capitalist strategy, and (e) increased availability of farmers choices. Now they are proposing strategies which represent what they perceive to be the more appropriate paths towards the economic development of their continent. They are articulating a realization of their own -sometimes- independent role in that process. Through their continental organizations and internationally representative institutions, they have developed a range of documents which seek to address the "correct" path, or models, they need to pursue to meet the challenges of short-term food emergencies, for example, while seeking to achieve long-term economic development goals.

18. However, "...it is artificial", according to Victor Uchendu (1986), "to talk about particular African countries

as somehow representing specific models of development or strategies of assistance since they are nothing more than 'orientations'". While such models when articulated by Africans maybe the "orientations" of respective countries, the models are at best borrowed: "No African has introduced a new economic model in recent years with specific reference to African development". Such borrowings exist also in the political arena: Ethiopia and Guinea Bissau are moving towards a socialist model. Their "leanings", however, are different from Tanzania's, although similar terminology may be used. Nigeria represents a mixed case, having returned to a private enterprise model, which coexists de facto with a strong government presence in the local economy. Kenya and Ivory Coast are similar although they presently are also struggling in the capitalist market sector. At least Nigeria does not have the great burden of oil costs, which makes some difference.

19. The Southern African Development Coordination Conference is an excellent example which recognizes that so-called African models are borrowed orientations, some of which having been successful in other settings. The area countries which came together in 1979 to form SADCC did not possess a detailed program or strategies of any kind which promised successful regional transformation. They actually invited, as did Africans in other forums, the international community to help them. They sought assistance, however, within a carefully developed and articulated framework of

their own. Their basic goal was to identify specific policy models to achieve (a) equitable development within southern Africa, (b) non-dependent new developmental relations, (c) regional development strategies, and (d) external aid-packages which are needs-specific as identified by Africans themselves.

20. There are several types of models in studies stressing this set of problems. There is the market interdependent model which tries to affect low-resource agriculture through market strategies. This model is in competition, however, with the basic needs approach which aims at immediate self-reliance, the priority of the Lagos Plan of Action discussed below. Both of the models here are within the sphere of the "improvement" strategy which is opposed, moreover, by the radical transformational strategy. The important argument for these models, from the African point of view, is that Africa can no longer afford to spend its ever-dwindling resources in a development process which forces them to exploit scarce resources and economize the abundant ones.

Documented African Perspectives

21. Africa's basic economic development concerns have been articulated at the Global, Continental, Regional, and National levels. The related documents, however, are not concerned singularly with the issues of agricultural

development, either via commercial or low-resource strategies, but they focus, as a result of evolving internal mass pressures, on those ideas related to low-resource agriculture. The following resource documents are examples of strategic African public efforts at "identifying" potential development strategies which might be employed successfully in Africa.

(a) the MONROVIA STRATEGY FOR THE ECONOMIC DEVELOPMENT OF AFRICA, which eventually evolved into the now famous

(b) LAGOS PLAN OF ACTION FOR THE ECONOMIC DEVELOPMENT OF AFRICA, 1980 - 2000 (since revised to 1980-2008)

(c) various NATIONAL AGRICULTURAL DEVELOPMENT PLANS

(d) THE AFRICAN ECONOMIC AND SOCIAL CRISIS: AN AGENDA FOR ACTION BY AFRICA AND THE INTERNATIONAL COMMUNITY (sponsored by the U. N. Economic Commission for Africa)

(e) AFRICA'S PRIORITY PROGRAMME FOR ECONOMIC RECOVERY, 1986 - 1990

(f) REGIONAL FOOD PLAN FOR AFRICA (AFPLAN)

(g) THE ARUSHA FORWARD-LOOKING STRATEGIES FOR THE ADVANCEMENT OF WOMEN IN DEVELOPMENT BEYOND THE UNITED NATIONS DECADE FOR WOMEN

(h) ECOWAS PUBLICATIONS (Economic Community of West African States)

(i) SOUTHERN AFRICA DEVELOPMENT COORDINATION CONFERENCE (SADCC), and,

(j) An array of farm-level studies, among other writings.

22. The Lagos Plan of Action (LPA) constitutes the first comprehensive continent-wide effort to formulate a long-term development strategy for Africa. A skeletal framework of mutual support and development, self-reliance, and

economic integration, the LPA is only a fairly exhaustive listing of what Africans feel needs to be done to put their continent on a self-sustaining growth/development path.

23. One of the primary criticisms of the Lagos Plan of Action is that it states general rather than specific goals while also failing to set forth quantifiable industrial volumes or monetary terms, specific strategies and schedules. The corollary document, Africa's Priority Programme for Economic Recovery, 1986-1990, on the other hand, adds substance to the LPA's more general yet dynamic long-term development objectives and priorities. It proposes to identify specific areas for priority action for rehabilitating and recovering African economies while mobilizing and fully utilizing domestic resources for the achievement of those articulated priorities.

24. The successful implementation of the Priority Programme is expected to establish the foundation for durable structural changes, improve levels of productivity, and ensure the rapid recovery of national economies specifically to enhance long term development prospects. Low resource agriculture receives priority rating at the national level.

25. The primary role of women in agricultural development, the Priority Programme notes, is recognized in the strategies for distributing financial resources for agricultural productivity both in their capacities as contributors to and beneficiaries of economic development

efforts. This strategy initially was called for in the Arusha Forward-Looking Strategies for the Advancement of Women in Development Beyond the United Nations Decade for Women. The proposed amount of direct and other resources allocated for food sufficiency also acknowledges the pivotal role of women in food production across the continent.

26. Unlike the LPA, the Priority Programme identifies costs and actually estimates the total investment required for implementation at $128.1 billion over the 1986-90 financial period. African countries have committed themselves to provide the first $82.5 billion or 64.4 per cent of the total costs while seeking external support of $9 billion per annum, on the average, or $46 billion.

27. The total financial encumbrances in the Priority Programme for supports and incentives for small-holders, farmers' and herders' cooperatives, and integrated rural development is $57.4 billion, which is 44.8 per cent of the total cost of implementing Africa's Priority Programme for Economic Recovery, 1986-90.

28. The remaining agricultural support sectors, such as agro-business industries, transport and communications, and trade and finance, which require parallel development in order for low-resource farmers and herders to achieve, are expected to receive an estimated $60.1 billion to implement the measures related to these other sectors in support of

national agriculture. The total investment costs for the implementation of agricultural development measures alone are $117.5 billion or almost 92 per cent of the total $128.1 billion required. Africans appear committed to developing their own agricultural sectors, although they are cognizant of the inherent international dimensions of the problem.

29. The Republic of Kenya's 1986/87 National Budget, for example, increased public spending for agriculture and provided strong incentives for investment and the informal sector. This effort was supplemented by Kenya's decision to use, over the next five years, its total concessions of $71.5 million from the International Development Association (IDA) to finance policy reforms designed to improve the efficiency and productivity of almost 2 million of the country's small-holders, or low-resource agriculturalists.

I

30. Careful evaluations are leveled at the well-known strategies of industrialization, urbanization and large scale agriculture based upon direct development toward large scale capital development. The theory has been that building dams, highways, factories and other modern facilities would create economic growth, thereby raising the income levels of the full society. While there was some economic growth in practice, income failed in fact, at the

practical level, to "trickle down" to benefit the poor. This continues to be Africa's reality.

31. Another of Africa's realities explains why African leadership presently is beginning to recognize domestically-focussed agriculture as a priority. "...LRA farmers and workers have taken a firm decision not to take part in the exploitative systems which governments and donors have imposed. Thus, governments are finding that food and agricultural production that enters the official channels is diminished and opportunities for governments to control production and its value have likewise diminished. The result is that governments and donors are seeking ways to lure peasants and workers back into the official system. Leaders are making some concessions to farmers (i.e. prices), but those leaders give little recognition to low risk, local knowledge, nor [are they] providing inputs which would be most appropriate to LRA farmers" (Rau, 1987). Many countries continue to pursue strategies which have a negative impact on poor people. Zimbabwe, Ghana, Angola, Mozambique and Burkina Faso are examples of countries struggling to transform their economies to benefit the larger/majority political body.

32. African technologies have not been allowed to keep pace with continental needs. African decision-makers often have made an attempt to modernize by changing the organization of traditional agriculture instead of encouraging, with

financial and other inputs, local individual farmers and improving, for example, storage methods and facilities (Lele, 1979). Women farmers have been discriminated against as a productive factor, considered, instead and erroneously, as a consumptive being. Both female and male farmers have not been shown examples of integrity and commitment to new agricultural technology on the part of national political leadership. These farmers have not seen clear economic advantages in higher productivity. There must be tangible incentives for increased productivity, for dropping traditional production technologies, and adopting new ones. "Increased crop production without a fair price, reasonably secure markets, adequate storage facilities, reliable transportation systems, and expected social benefits, is an unreasonable objective for which there [cannot] be real motivation" (Cummings, 1986). Low resource agriculturalists generally have been ignored as positive elements of African economic development.

33. More African countries, however, are having to return to the individual peasant or low-resource farmer, most of whom are women, as the natural and most efficient source of agricultural production. African leaders have had to recognize, as Carl Eicher (1986) stresses, "the strategic importance of a reliable agricultural surplus as a precondition for the expansion of the industrial sector". Low-resource agriculturalists represent the primary medium through which the initial quest for agricultural surplus

can be realized and economic expansion can be achieved. There is an evolving concern among various heads of state, e.g., Tanzania, Malawi, Cameroon, and Zimbabwe, that increased attention should be directed toward low resource agriculture.

34. The Lagos Plan of Action together with national development plans demonstrate a resolute understanding of this reality and, as a result, have raised agricultural development, self-sufficiency in food specifically, to a level of top-priority. Africans must return to feeding themselves.

II

35. The primary role of low-resource agriculture is to assist the transformation of African agriculture. It is through this sector that appropriate, and governmentally supported, technologies can be brought into the economies to strengthen the fundamental relationship between the agricultural and industrial sectors. These technologies, however, must be capable of lending themselves to local manufacture and to easy distribution or "spreading" over time: i.e., to be used as part of the development strategy, imported technologies must be capable, some time after importation, of manufacture within the local or regional economy; and any technology brought in must be capable of being shared or spread between farmers or herders, and

without very high costs for the extension or teaching aspect of the technology.

36. There are good reasons for this strategy. First, the local manufacture strategy makes what economists call the "forward- and backward-looking" linkages (Johnston, 1982). The capacity to manufacture the imported technologies locally causes the attendant resources or inputs to be generated within the low-resource agriculture sector. There is an almost immediate interface, moreover, with the industrial sector because it is automatically linked with its counterpart the agricultural sector. Unless this approach is pursued, i.e., low-resource agriculture providing inputs for local manufacture which is a growth point for the industrial sector, African agricultural development will continue to be characterized by the half-a-loaf syndrome: either agriculture or industrial development. African leaders recognize that they are unable to afford such a strategy much longer, that the goal of self-reliance cannot take place solely through one or the other of these two interdependent economic sectors, and that chosen technologies are appropriate only when they have the capacity to stimulate demand within both the agricultural and industrial sectors.

37. The assumption over thirty years ago was that the new technological inputs were available in the U.S.A., Europe, and Japan and all that was required was for Africans to go

and acquire them in the open market. This approach, however, has been identified as detrimental to Africa itself because it only served to rob the continent of its own technological self-reliance. Moreover, it was recognized, however belatedly, that western high technology was inappropriate for Africa from its inception since it was not designed to solve the problems facing low-resource agriculturalists. The problem, for example, of U.S. agriculture is mechanization. Labor is very expensive, therefore, American farmers have to mechanize to survive.

38. In Africa, on the other hand, the problem is different. When mechanization, indeed, is used to assist in relieving Africa's agricultural crisis, the result is the enlargement of the pool of dispossessed land-holders. Many argue that every imported tractor, for example, is a disservice to low-resource agriculture in Africa because the problem is not one of labor scarcity, rather one of the right inputs or appropriate technology. The emphasis proposed by African leadership is on educating, via enlarged and better funded extension services, low-resource farmers and herders and providing them with the correct inputs. They propose, further, to use African financial resources to acquire these appropriate inputs because they simply must be able to lend themselves to local manufacture in the long-term, and to enhance the priority objective of self-reliance as well as market diversity in agricultural development. If others, i.e., external agents, are allowed to provide the funding

for such inputs, they are then endowed with decision-making authorities which may only serve to skew, once again, original African development goals.

39. "The capacity of appropriate inputs to lend themselves to local manufacture", Victor Uchendu argues, "is vital, for here is an area which should give African states an opportunity for real regional development". There is no point for Nigeria, in fact, to produce or purchase its own technology for the Sahel, for example, which can not, because of its inappropriate capacity, be shared with Mali or Ethiopia. This means that there must be careful African considerations given to ecologically adaptable inputs or technological innovations which can be shared initially within specific ecological zones. The problems are too severe and critical to be left as a single country's task, for such single efforts would mean wasting a lot of manpower resources.

40. Appropriate technology means simple, easily repaired, technology, such as the windmill, for example, of old. Today, windmills do not exist, save for southern Africa, on the continent. They are historic in their capacity to remain operative and thereby cost effective, and especially so when compared to the great electric dams and smelters constructed, among other locations, in Ghana. The evidence is in on Nkrumah's failure in this area. High construction costs are directly associated with dams in addition to the

social costs related to untold numbers of displaced populations. Dams also create a new ecology while only a few people actually are accommodated in the long term due to technical and construction breakdowns, and the lack of available spare parts and mechanics in the affected areas.

41. The efficient technology of the windmill in Africa appears to be more correct for the low-resource agriculturalist than the high technology of the dam. This technology lends itself to sharing across regions, the windmill rarely breaks down because of mechanical failures, and there is available plenty of "fuel" to insure its functional operation. The private entrepreneur could be encouraged to join together with an Austrialian contractor to provide this technological innovation, which would be most useful in maintaining the present thrust for self-reliance and economic development in Africa through the agricultural and industrial sectors.

42. Low-resource herders in Zambia are involved in a rather notable example of appropriate innovation through their village ranches projects. The livestock of several areas are brought together into a common, barbed-wire enclosed ranch. State-supported veterinarian-care is readily available to the animals as well as food and water supplies. The economic returns from such a project is immediately obvious, not least of which is the potential for the state to supervise the sales and transfers of livestock, create a

national "census" of available livestock, and to tax more efficiently the herders for revenues. Yet another primary return is the social capital to be realized later as a direct result of releasing children from the role of herders so that they may now attend school.

43. Johnston and Clark (1982) have argued correctly that "late-developing countries cannot do everything at once... [Yet] preoccupation with any single program is likely to be self-defeating". Africa's economic history has borne out the first half of this conclusion and the colonial imposed export-oriented economies are singular in their goal orientations.

44. The role of low-resource agriculturalists in Africa today, according to official documents, is (a) to assist in expanding the national economy by operating small-scale farms with inexpensive and labor-intensive technological inputs and skills acquired usually outside the formal educational system; and (b) to manage with a minimum requirement of domestic or foreign exchange, and without the attendant activities that undermine competition and raise prices (Cummings, 1985). Rural farmers may be forced to participate at this level primarily because they need to generate some coalitions with politicians which may result in their ability to reduce somewhat their powerlessness. Such a linkage may result in their ability to force via their numbers the resource allocations in local economies.

45. The World Bank and the International Monetary Fund (IMF) are accused by Africans of requiring local economies today to produce more for export in order for governments to ascertain "conditionality" loans and infusions of needed capital into their already overdependent economies. Local food production, unfortunately, have almost always been forgotten in this strategy, increasing food insecurity in Africa. The increased revenues gained from increased exports are used subsequently to import food, and even then the government usually is unable to import enough primarily because of highly inflated prices and limited financial resources. The U.S. has been shown to play a decisive role in shaping these negative decisions of the World Bank and the IMF toward Africa (Payer, 1975). While on the one hand the U.S. speaks of assisting Africa, its actions demonstrate a total different reality. Policy decisions are taken which are diametrically opposed to those of Africa. As a condition for its help, for example, the IMF require African nations to introduce austerity programs at the very time that they are undergoing major economic conditions. In Zambia's case, reports indicated that the IMF actually influenced, pressured, Zambian officials to resume shipping a large share of their exports and imports through South Africa (Burdette, 1982).

46. Among the major constraints to low-resource agricultural development since the 1970s, Africans argue, are the triple crises of drought, foreign debt and technological transfer (Nyang, 1986). Although many countries have tried to invest greater shares of their financial resources to agricultural development among both their commercial and low-resource farmers, as presently demonstrated by Zimbabwe, Kenya, Burkina Faso and Malawi, among others, these internal and external factors have tended to undermine the effectiveness of such policy goals. The external factors include the fluctuations in the prices of commodities from the West and the deterioration of international prices for Africa's agricultural export products. In the early 1970s, the drastic increases in oil prices led then to high energy costs for most African countries including Kenya, Ghana and Zambia, which are still playing havoc on national budgets in Africa. The sharp increases in the import debts of African countries undercut honest efforts at developing low-resource agriculture.

47. The gravity of the African situation can best be measured from data identifying the numbers of African states forced to draw upon the stabilization and export earnings (STABEX) arrangement worked out between Africa and the European Economic Community (EEC) under the Lome Conventions I, II, III, and now IV. Between 1974 and 1985, almost all of Africa with monocultural economies, that is they depend

almost exclusively on a single cash crop, applied for STABEX, SYSMIN, and/or emergency food assistance.

48. This was particularly true for the Sahelian countries whose economies were ravaged by sharp declines in world prices and the natural calamity of long-term drought. In those nations, the governments found their efforts to improve low-resource agriculture stymied not only by the forces of the international market and earlier national policy decisions, but also by the natural disasters of drought and desertification (Cummings, 1986; 1987).

49. Related to but also different from the drought is the question of refugees. Currently Africa, which has less than one-tenth of the world's total population, is the home of over one-half of the world's refugees. This enormous problem of human resettlement, which confronts governments in all parts of the continent, affects African agricultural development, at both the commercial and low-resource farmer and herder levels.

50. The mass exodus, for example, into urban centers of traditionally nomadic populations, among others, has been the subject of much reporting on the drought-stricken areas of the continent. In order to restore agricultural balance in these areas, African governments are asked to divert even more resources from already overextended sectors of their economies.

51. Alwyn B. Taylor (1985), Director General of the African Centre for Monetary Studies, forcefully argues that while African foreign debts, another constraint to low-resource agriculture, "are not dramatic enough in size to make newspaper headlines, they are quite large by African standards and are growing faster than in other developing areas". During the colonial period almost all African countries had low debts. This was due in large part to the fact that interest rates were very low and loans were under colonial government guarantee. Added to these two factors was the rather limited nature of the development (more precisely "growth") objectives of colonial administrations. Independent African political leaders embarked upon large scale development programs which were guided by the import substitution philosophy. Driven by the euphoria of independence, many thought that there would be sharp increases in loans and grants from the overdeveloped world. This view turned out to be overly optimistic.

52. The already limited assistance from the western countries was reduced drastically following the Arab oil embargo and the attendant increases in oil prices. Due to the large budget deficits, rapid growth in the money supply, the collapse of commodity prices for African export goods, and huge balance of payment deficits in industrialized countries generally, it became impossible to maintain the system of fixed exchange rates, which collapsed in 1971. With Arab capital deposited in western banks, a new

situation of borrowing from private sources developed for the whole of the so-called Third World. These combined developments brought Africa, and its more-indebted Latin American counterparts, into its present debt-trap quagmire.

53. Africa's external public indebtedness grew at an average annual rate of 25 per cent between 1970 and 1974; rising from $9.1 billion to $27 billion. The average annual growth rate was also 25 per cent of gross domestic product (GDP) in 1974, the debt itself or GDP ratio, however, had climbed to 50 per cent between 1974 and 1984. Africa's total external debt, including short-term and other accumulated past due debts, increased nearly sevenfold over this same decade to more than $175 billion in 1985. The Washington Post estimated the debt to be $200 billion at the end of 1986. The heavy debt burden has affected the very core of Africa's financial structure.

IV

54. The Lagos Plan of Action, Africa's Priority Programme, the Arusha Forward-Looking Strategy for the Advancement of Women, ECOWAS, and SADCC argue for an integrated development strategy, in which low-resource agriculture receives its proper consideration and supports. The export-led development strategy, primarily represented officially by the World Bank, on the other hand, is acceptable only over the short-term, since it fails miserably to provide for the

expansion of African economies and long-term solutions to Africa's development problem.

55. Johnston and Clark (1982) have identified the unimodal and the bimodal strategies as production-oriented agricultural development programs. Debate, as usual, surrounds these modoels, but they represent some of the critical thinking available today regarding the issues of equity, organization and participation in LRA. The bimodal strategy allows a selected small group to produce on behalf of the state those goods required by the state to operate efficiently, leaving others basically to follow or make their own way to the best of their abilities. In such an environment, tractors and other technical innovations are supplied, but hoes and cutlasses are not. This model is designed primarily to support the elite large-scale farmers and ranchers and manufacturers. They are highly productive.

56. The unimodal strategy is said to support the large, medium, and small-scale producers, which includes the low-resource agricultural farmers and herders. (They all are encouraged, however, to draw upon additional resources according to their respective strengths.) There is a government-constructed road, for example, somewhere in the rural area. It serves everyone equally, regardless of sizes, by allowing each of the users to export their respective products to domestic and ~~foreign~~ markets. The road is an example of the internal characteristic of the

unimodal strategy which is non-discriminatory. Other government subsidized inputs, such as fertilizers, are supported via this model because fertilizers can be used by all farmers according to their needs. The tradeoffs between the unimodal and bimodal strategies might help government officials to choose, on the basis of local, regional, national, and now continental priorities and goals, the programmatic approach better suited to their low-resource agricultural development efforts.

B. An analysis of the differences between African and U.S. perspectives about low-resource agriculture in Africa and what that might mean for policy making in the U.S.

57. African governments have for the last twenty-five (25) years embraced the notion that development is the creation of industries. This point of view grew out of the Latin American experience from where Raul Prebish advocated what has come to be known as "import substitution". The rationale for this policy formulation was that African developing countries would not be able to meet the rising costs of imports, and for this reason it would be advisable for them to undertake industrial development on a priority basis. That is, they began to produce locally those products that took sizable portions of their foreign exchange. The policy approach resulted in Africans producing what they do not consume, and consuming what they do not produce.

58. In the African context, the philosophical justification for such a policy has been assigned to Professor Arthur Lewis, who served as economic advisor to Prime Minister Kwame Nkrumah of Ghana. This example was soon copied by the other nations of Africa. The policy was implemented at the same time that African socialist or traditional economic schemes were being undertaken. A change in focus was first articulated by president Julius Nyerere of Tanzania whose Arusha Declaration made it clear that the import substitution policy simply was too costly. Nyerere's argument was that industrialization heretofore was biased in favor of cities or urban areas while the countrysides or rural areas were deprived of all supports or inputs through the process. Today, there is considerable opposition, particularly among the rural and urban poor, to this urbanization or modernization strategy which is perceived primarily as the failed export-led economic development strategy.

59. The U.S. Government has taken an active role towards Africa over the years and especially during the administrations of Presidents Kennedy and Johnson. At this time, emphasis was placed on limited U.S. involvement in African development programs. The creation of the Peace Corps and the U.S. Agency for International Development (A.I.D.) offices for Africa illustrated, however, the more humanitarian perspective of U.S. policy in the 1960s and early 1970s towards Africa. In retrospect, however, one can

argue that between 1960 and 1976, American officials placed greater emphasis on Western European and later World Bank formulated policies and strategies of development and followed those projections and pronouncements in policy decisions affecting U. S . - African relationships.

60. The first Assistant Secretary for African Affairs, Joseph Satterthwaite, in one of the earliest major policy statements, set forth several over-arching continuities or principles which have shaped American policy which are as current today as when first uttered in 1959: "We support African political aspirations when they are moderate, non-violent, and constructive and take into account their obligations to and interdependence with the world community. We also support the principle of continued African ties with Western Europe" (Young, 1984). At the same time that these principles demonstrate the continuity of U. S. policy towards Africa over the years, Africans are not unaware of their relative low significance in the hierarchy of U.S. foreign policy priorities and their structural role as one of the pawns in the U.S. permanent counter-Soviet preoccupation. For, as Henry Kissinger noted (IBID.): "To fore-close Soviet opportunities [in Africa, as elsewhere] is...the essence of the West's responsibilities".

61. The Satterthwaite policy statement has been generally pursued. "American policy has consistently favored regimes identified as 'moderate'", as Crawford Young (1984) reminds

us, while "American aid, in modest amounts, is pledged to African development needs, for which market economy principles and a propitious investment climate are proposed as fundamental remedies".

62. The U.S. government has tended not to support low-resource agricultural development, as Chester Crocker (Seidman, 1985) has observed, because "Some old shibboleths badly need reexamination, including the notion that a country must physically produce its own food supplies, when in some cases it may be more efficient -and no less self-sufficient- to concentrate on cash crops and [purchase] food with the money thus earned".

63. This viewpoint, characterized by policy implementation, represents an obvious area of potential conflict between the United States and Africa, especially in light of the current array of African-created documents identifying food security as the continent's first priority. This goal is dependent both upon Africa as well as western nations' support via their respective food aid policies. This goal has proven especially contentious in light of the Reagan policy approach which has used Food Aid in Africa (as well as other U.S.-controlled channels such as the International Monetary Fund, Radio Broadcast Reports, and the United Nations) primarily as a political weapon, pressuring African states into self- destructive policy positions. Earlier U.S. administrations had a similar commitment to the free

enterprise market strategy for Africa. They provided financial and other supports to African states willing to continue to pursue this strategy in their national economies, but food aid was not employed as a political weapon.

64. In his 1983 speech, "Reagan Administration's Africa Policy: A Progress Report", Crocker informed his audience that America had "moved to rebuild our relations with Mozambique...while responding to that nation's desperate economic situation with food aid... We have quietly encouraged bilateral talks between Mozambique and South Africa...".

65. Crocker's encouragement demonstrates (a) U.S. perspective on food security for Africa and (b) how Mozambique, for example, was pressured into signing the Nkomati Accord (see appendix, "Details of U.S. Policy Toward Mozambique"). Angola and Zimbabwe are two other examples of U.S. political diplomacy, "constructive engagement", forced to acquiesce to policy positions most destrimental to their own economic and political survival. Zimbabwe, to illustrate, was debt-ridden with postwar reconstruction costs. Social welfare programs and land reform were severely threatened by the combined impact of drought, international recession, and the destabilization policies of South Africa.

66. Zimbabwe was confronted with balance of payments deficits and ever increasing foreign debt. The IMF was approached for aid: IMF imposed its typical conditions--government spending cuts, reduced state interventions in the economy, reopen the economy to the "mirage" (i.e., international market forces). Results: initial efforts at land reform halted; social welfare supports, subsidies and price controls cut; doubled interest rates eliminated the capacity of small, embryonic businesspeople and rural farmers to participate in their own national economy.
The Zimbabwe dollar was forced into a floating devaluation scheme which (a) resulted in extreme cost increases for imported machinery, equipment, and materials (b) spurred inflation, and (c) reduced real incomes primarily for peasants, wage earners, and the ever-growing numbers of unemployed (Quarterly Review, 1984). The U.S. was not through, however, with Zimbabwe: the country's promised aid package was cut by a full third in late 1983, after the Soviet-Korean jet incident and the U.S. invasion of Grenada. In fact, the U.S. 1985 aid pledge to Zimbabwe was 15 percent less than in 1984 despite the increased burden of the 3-year drought and the influx of Mozambican refugees.

67. The question of America's food aid perspective again was implicated at the United Nations 13th Special Session on the Critical Economic Situation in Africa. There the U.N. agreed to assist the continent to raise the more than $128 billion deemed necessary to achieve Africa's economic

recovery. The U.S., however, at the strategic level, refused to support this international effort, outlined in the African Program for Economic Recovery to promote an integrated and action-oriented economic development program. Even the clearly diluted version of the recovery progam failed to gain U.S. financial support. The plan proposes almost 92% of the total $128 billion specifically for agricultural development measures, i.e., food security for the continent. After the conclusion of the U.N. Special Session, Africans publicly stated that while they were disappointed, they were not surprised that the Reagan administration had refused to give its support.

68. They recognized the action of the U.S. as another example of America's efforts to maintain a (food) dependent Africa. The general U.S. policy under the Reagan administration, Bill Rau has noted, has not supported many of African countries which have sought to transfer resources and power to rural areas and poor people. U.S. financial support to Burkina Faso fell sharply over the recent three years as the late Thomas Sankare pursued policies which the U.S. did not like. The U. S., on the other hand, provides military aid to Angola's rebel UNITA organization, which is known by its intentionally disruptions of the agricultural production of small scale farmers.

69. U.S. development strategies, moreover, "have ignored and by-passed the tremendous wealth of knowledge of farmers about soils, plants, seeds, planting methods, the environment and its stability. Instead, the U.S. has pushed development programs which have marginalized poor people and which tend to ignore the risks associated with farming by poor people". While Congress has included the appropriate language in USAID authorizing legislation, "most independent analysts agree that AID projects and programs have not reached the poorest people and that in recent years (my emphasis) AID programming has moved further away from direct support for and involvement of poor people/LRA farmers in project planning and implementation." (Rau, 1987).

70. Yet, Africans continue to argue, to almost no avail, that there are problems with the western-oriented market interdependence model where African low-resource agriculture is concerned. First, it is important to understand that the model necessarily must move Africa's agrarian, low-resource agricultural economies from the basis of one security to another. But very little attention is given to assist this effort and assure the low-resource agriculturalist a safe, secure, passage. The low-resource farmer is not an irrational economic being. This person has known from experience that even if everything goes bad, there will be food sufficient to feed himself. Yet this same farmer is allowed to fall prey to the intricacies of the market due to the lack of information, education and

exposure. That is, this farmer generally enters the market expecting to participate successfully. However, the small farmer usually enters the market at the wrong time, when everybody has produced a large surplus. So the small farmer is forced to take whatever the market offers up, which is almost always, under such circumstances, low market prices for produced goods.

71. The next time this low-resource agriculturalist enters the market is when there is a mishap of nature or some kind of miscalculation which creates, for example, a shortage of seeds to plant the planned crop. But by now, there is scarcity in the market, forcing the person this time to buy seeds at a much higher price. This farmer's two entrances into the market have resulted in failures and epitomizes the basic problem for small holders: selling when market prices are low and buying when such costs are high. This set of experiences does not allow the low-resource agriculturalists to develop a trust in the market, relating instead to it as an enemy to be avoided at all cost.

72. In short, there must be a strategy to assure this farmer a stable price for productivity. There must be a strategy which insures a greater degree of success and an enhanced willingness to continue to participate in the market and with the expectation of a positive return. However, this farmer or herder cannot be assured of such stability in prices until other locals are allowed to begin

to process or manufacture the outputs of that farmer's production. This can be achieved through the development of agro-allied industries in these economies specifically to use the low- resource agriculturalists' outputs as industrial inputs for processing. They become dependent upon each other. Then the foundation for a stable price can be better guaranteed, for one of the lessons of western industrial society is its capacity to provide security in the economy through stable prices and costs. As a result, westerners have been moved over time from the basis of one security to another and have developed "trust" in the market system.

73. Africans spend considerable time and human resources producing yams. As a result, when yams are harvested in West Africa, they are usually in great abundance. A few months later, however, yams are once again scarce. No one has yet developed a yams processing technique or plant so that when this foodstuff is in season it can be turned, for example, into flour or yam-chips. Such a product certainly would be purchased and consumed by national populations. Parenthetically, the Yoruba of Nigeria are doing something with yams, but they have not been able yet to acquire the appropriate, i.e. low cost and reliable, technology necessary to remove an enzyme which changes the yam's original white color overtime to a rather unappealing bluish-green.

74. There is need, via the interdependent market strategy, to take the yam, or other products, apply associated technology, process it in the African local area, and ply it back into the economy at the domestic level, to assure stable prices for the low-resource farmer/herder, and the urban dweller, as well (although this latter community has become rather parasitic because of its highly subsidized status). The exchange and purchase of respective inputs and outputs between the industrial and agricultural sectors could reduce the parasitic nature of urban dwellers and at the same time, return the individual low-resource farmers and herders to their original societal status as the natural, most efficient sources of agricultural and pastoral production.

C. Visions of the Future

75. Africa received its political independence primarily in the early 1960s. It is now in search of its economic independence and continental maturity. The continent has come of political age as demonstrated by its leaders ever-growing willingness, whether voluntarily or compulsion, to assume a sustained effort to achieve economic development and a more forceful and visible advocacy posture. That Africa's development is first and foremost an African

problem, which can only be solved in the final analysis by African people themselves, and is becoming both recognized and accepted by Africans, further demonstrate the evolving political maturity of continental Africa.

76. Africa's recent entrance into the world of politically independent nations has forced it to attempt to develop all of its various economic sectors simultaneously. Most other world nations have not been confronted at the same time with the development of both the agricultural and industrial sectors of the economy while concomitantly having to maintain themselves economically in the international marketplace.

77. The recognized continental set of developmental objectives for independent Africa is the Lagos Plan of Action for the Economic Development of Africa, 1980-2008. It articulates Africans' vision for their future. The fundamental objectives are human resources development, greater self-reliance (especially self-sufficiency in food), rapid growth of industry, and national development of mineral resources, greater economic integration, and rapid scientific and technological progress (Browne & Cummings, 1984).

78. Africans continue to exhibit a positive, optimistic vision for Africa's future. They argue that there is a high potential for rapid growth in Africa. While many do not, most countries have viable agricultural potential,

especially in light of the availability of an extraordinary labor pool and trained manpower, and some have oil or other mineral resources. There is a constantly evolving cadre of highly educated and experienced Africans throughout the various African national communities and beyond. Moreover, there is optimism due to the potential of the mutually reinforcing role of good domestic programs and appropriate external assistance as demonstrated in post-World War Europe and Japan. The feeling is that the same combination of domestic reforms and donor support can be successfully used in Africa.

79. The acknowledged richness of the continent in mineral and energy resources represent yet another reason for optimism regarding Africa's future. Africa's problems are structural requiring reforms in policies which have been recognized and admitted to recently by African leaders, thereby creating the initial opportunity to acquire resolutions.

80. However, the greater foundation for the optimism resides in the human factor, viz., in the potential of the low-resource farmer and herder to revitalize African agriculture. According to Oumarou Youssoufou (Moses, 1986), Executive Secretary of the Organization of African Unity to the United Nations, it is "the African peasant farmer in whose hands rests the key to rehabilitation and to any successful agricultural program" and it is agriculture,

itself, which "constitutes the cornerstone of the [continent's] recovery strategy". The primary question, however, must be repeated: "Will Africa's rural people be given the opportunity and the appropriate incentives to make their contribution to African agricultural development?".

81. Development, according to Zimbabwe's Organization of Rural Associations for Progress (O.R.A.P.), "consists of reversing the process of underdevelopment." It is not a material goal, for human beings are the center of the entire development process. People, therefore, must organize, learn, cooperate, discuss/analyze their situations, and propose solutions, for which they take the primary responsibility to make practical.

82. Rural Africans are taking initiatives in the broad continental effort to become self-sufficient in food. Self-help must replace aid for food aid can wreak havoc in local economies. Food relief deals almost totally with symptoms, ORAP representatives note, and can serve to underdevelop people more by making them more dependent. The group sees low resource agriculture as significant to their development plans when LRA is part of several villages' working in collaboration. Emphasis is given to a four-point strategy which re-establishes food security in local areas:

* recourse to traditional seeds and fertilizers;
* specialty focus on the quantity/variety of foods produced;
* improved food storage and food banks in the villages; and
* improved water storage and local irrigation schemes.

In Burkina Faso, where unnecessary food imports were creating sudden collapses of cereal prices and making local farmers destitute, cereal banks are a part of the LRA development program. These 'banks' offer an alternative to reliance on food aid and reverse the aid-syndrome which encourages a passive attitude on the part of the recipients.

83. "[W]e have done away with imported models, as the rules and regulations and instructions for application are also imported...[Six S's] philosophy is self-development without damage. Our idea is to create a different society, one that is neither traditional nor imported, and is hybrid and therefore more solid and reliable than those which gave it birth...'Six S' is the first African creation of a society that is neither a copy of western ideas nor a return to ancestral custom" (Courier, 1986).

84. Yet, there is not any attempt to ban any western values or supportive systems, including inputs generated through a formal low resource agricultural program financed from external sources. Rather, ideas and technologies are kept when they prove compatible with what the local people know, based on their experiences (i.e. their crops), on what they can do (i.e. their technology) and on what they want (i.e. their aspirations).

85. Rural Africans raise the question of LRA limitations: the inability of single individuals to effect national decision-making regarding policy reform in the area of

establishing credit, acquiring loans, and having access to foreign exchange to support local low-resource agricultural ventures. They recognize, moreover, that the development agenda of Africa is not limited solely to a response to LRA. There are other priorities as well: debt, refugees, national integration, infrastructural reforms, and commitments to the improvement of social services. There is a realization, however, among both the rural and urban populations, including the rural and urban poor, that unless the agricultural sector is healthy, other dreams would be difficult to realize, even for countries like Nigeria that possess substantial oil reserves.

86. The United Nations Programme of Action for African Economic Recovery and Development, 1986-1990, speaks quite candidly of Africa's economic and social crisis and the recognition of its gravity by the international community. "Urgent, far-reaching and imaginative economic policies", this document notes, "are required to avert further deterioration in the economic conditions in Africa and to launch the continent on the path of dynamic self-reliant and self-sustained economic development in a favourable external environment."

87. This means that much of the original thinking about economic market strategies and development models may have to be reconsidered in Africa's case, particularly since those presently "empowered" to cure Africa's ailments simply

have failed. This pattern of failure is not absolutely that of Africans alone, for a significant part of the blame is left also to fall squarely on the shoulders of the various foreign, American and western, economic experts.

88. Africa is once again requesting the cooperation of the United States and its corpus of financial and technological inputs in its bid for economic recovery and self-reliance. Yet, one must not ever try to imagine cooperation without conflict -- they simply go together. The issue, however, Africans argue, is whether or not we have the mutual good sense to develop appropriate conflict management systems which will remain ahead in the anticipation of areas of potential difficulties. It is not conflict which should be feared, however, rather it is the lack of a sufficiently strong management system designed specifically to resolve conflicts. It is only when the institutions designed to manage conflict become weakened and undermined and allow the conflicts to be generated that society goes into crisis. There is good opportunity for complementary relations between Africa and the U. S. thereby enhancing the areas of convergence and reducing those of conflicts.

89. Africa is the frontier of the next century on this globe. It is not Asia because it is already overpopulated, nor Latin America, leaving only Africa as the last global frontier. Africa's resources have not all been discovered yet. The mapping of Africa via American technological

successes in space promises inconceivable advantages and potentials beyond even those associated with oil, among other resources.

90. As the United States, for example, moves into its vast service, information, and managerial economy over the next two decades, with its related new technologies, Africa will still require basic supportive transformations of its economies which are remnants of an earlier American economic history. The U. S. will be called upon to provide such inputs and Africa will be able to pay market value for the same from African created revenue-bases.

91. Another area of convergence can be identified through the two populations: one characterized by an aging population and the other by a somewhat younger one. American schools are closing from lack of pupils while African schools usually are substandard and overflowing, where they exist; two or less children are sufficient in the United States, while African families continue to be quite large due in part to living standards; American medical care is increasing its citizens' life expectancy beyond imagination and the national ecology already has been rearranged --most Americans are city-dwellers-- while the opposites are true primarily for the continent of Africa. By the turn of the century, Africans yet will not be equally distributed between the urban and rural areas.

92. Nevertheless, Africa will require certain basic manufactured products, for example, which are no longer in vogue for the American populous, but highly sought after by African consumers. So as the two populations continue to evolve at their respective rates of societal maturity, they should become more rather than less complementary. Africa's natural inclination for competition will be leveled, perhaps, at Latin America instead of the United States.

93. African economic crisis endangers U. S. access to African natural resources, including the West and North African oil fields and the various mineral resources located in other parts of the continent. Economic instability generates higher incidents of emergency policy responses and related leadership problems. Problems from internal African social and other disasters can only be addressed through the most expensive emergency relief projects. Moreover, the economic collapse or default of a major African country poses an immediate danger to the integrity of the international monetary system.

94. Thus, U. S. policy has to articulate a clear understanding of the need to assist in removing the root causes for instability, via increased support to African low-resource agricultural development, and produce an environment in which U. S. business will invest its capital

with assurance. It is in the national interest to have this result. Constitutional governments will be given opportunity to flourish and the problems of leadership can be reduced.

95. The elimination of domestic policy deficiencies and administrative constraints in Africa will enhance economic progress and give foundation to U. S. economic and strategic interests on the continent. Effective communication of U.S. policies towards this end helps to confront the unsolved problems presently related to basic human needs in African nations and gives advantage to U. S. strategic and security needs.

96. The role of low-resource agriculture finally is recognized by the African hierarchy of leaders as the crucial link to African economic development and food security. Low-resource agricultural is the most natural and potentially efficient way to do this in Africa. It is to the United States' advantage to commence its participation immediately and at meaningful levels to assist the enhancement of African productivity via the low-resource agriculture strategy, which, in fact, is not unlike that of post-colonial America.

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APPENDIX

Details of U.S. Policy Toward Mozambique, '81-'85

*March 1981:a	The United States revoked food aid.
*June 1982:b	The U.S.I.A. began to broadcast MNR propaganda reports on Mozambique.
* 1983:c	Mozambique became one of the largest recipients of U.S. food aid in Africa. Although large numbers of people ... faced starvation and thousands had already died from lack of food, the Reagan administration did not increase food aid to that country until the... government had agreed to negotiate a nonagression pact with South Africa.
* 1984:d	In FY 1984 (10/1/83), U.S. provided: food commodities @ $10 million ($17 million with transport costs) -- P.L. 480 program: 5,160 tons of dairy products and 31,340 tons of grains by government-to-government agreement; and 7,000 tons of grains via World Food Program.
* 1984:e	After the signing of the Nkomati Accord, the U.S. Congress [requested by Administration] lifted its ban on development aid to Mozambique with an initial allocation of $500,000.
* 1985:	Projected food aid increased to $25.7 million.

Sources (cited in Seidman, 1985:128-9):

a. New York Times, March 14, 26,, 29, 1981.
b. Elaine Friedland, "The Reagan Administration's Policy Toward the Southern African Development Coordination Conference", Paper, International Studies Association, March 27-31, 1984, Atlanta.
c. Sean Gervasi, Interviews with Mozambique Officials, November, 1983, and congressional sources, January 1984, cited in Gervasi, "Southern Africa: Dr. Crocker's Secret War." Paper, Sanctions Working Group (New York: photocopy, 1984).
d. U.S. food aid data acquired from P.L. 480 office, Letter to Chris Root, Washington Office on AFrica, May 1984.
e. International Herald Tribune, June 13, 1984.

FINAL DRAFT

LOW-RESOURCE AGRICULTURE IN AFRICA

EXISTING MODELS OF DEVELOPMENT ASSISTANCE TO LOW RESOURCE AGRICULTURE IN AFRICA

by

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Existing Models of Development Assistance to Low Resource Agriculture in Africa

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I. Overview

1. The majority of Africans make their living as subsistence farmers, cultivating small plots with a few hand tools and their own labor. They are "a heterogeneous group of rural women and men who generally are poor and who have limited access to and control over land, water, labor, capital, external sources of information and technology, and external inputs such as commercial fertilizer."(1)

2. With the majority of Africans engaged in low resource agriculture and with the agricultural sector usually the principal source of national income, a consensus has developed among experts in Africa and abroad that the development of small farmer agriculture is critical to the equitable development of African economies generally. However, there are considerable differences in views on how small farmer agriculture is best promoted, how it fits into broader development strategies and what those broader development strategies should be.

3. The Office of Technology Assessment has identified two existing "models" of development assistance to low-resource agriculture in Africa: the "poverty-centered" approach (also known as the "Basic Human Needs" approach) and the "accelerated development" approach, which links foreign assistance to macro-economic policy reforms by recipients. It is worth pointing out at the outset that these are not models in any except the

broadest of terms. They are approaches to development assistance based on a variety of objectives and sets of assumptions on how those objectives can be achieved. In addition, they are not models of development assistance to low resource agriculture. Neither approach is particularly targeted at low resource agriculturalists and the objectives of these two approaches are far broader than simply increasing the productivity and well-being of this group of producers. Nevertheless, these approaches to development have important implications for low resource agriculturalists. It is these implications which we shall explore here.

II. The Approaches

4. During much of the 1950's and 1960's, the major focus of US foreign assistance policies was on promoting growth in developing countries. (2) During the early years of this period, many experts argued that economic growth, i.e., the expansion of national and per capita income, was to be achieved through industrialization. The first steps towards industrialization would be the creation of import-substituting enterprises. What was lacking in developing countries was sufficient capital to promote industrialization and ensure rapid growth. Development assistance would increase the capital available. Such assistance was often allocated to finance construction of the infrastructure — roads, dams, irrigation facilities, communications networks — needed to provide the preconditions for industrialization. The importance of the private sector and of efficiency-promoting macro-economic policies were also part of US aid policies during this period. In the 1960's, there was a growing recognition of the importance of the role of agricultural development in economic growth generally and a widely-shared view that development planning (and a major

role for the state in directing development) was needed if the maximum amount of resources were to be applied to promoting national economic growth.

5. During the 1950's and 1960's, surprisingly rapid growth occurred in many developing countries. A seminal work on development in mid-1970's (3) pointed out that since the beginning of the 1960's, income of Third World countries had increased by 50%, exceeding most expectations. But, as the same work emphasized, perhaps a third of the populations of developing countries received no benefits from such rapid growth. Indeed, the number of individuals in absolute poverty was increasing. It was increasingly recognized by the early 1970's that development was not "trickling down" to the poor and so more direct efforts were needed to ensure that the poor truly benefited from development.(4)

6. These changing views of development and the role of foreign assistance in it had a significant influence on the way US aid was utilized, other factors — above all political and strategic — have also played a major role in determining the size and allocation of US aid. US aid to Africa during the 1960's, rose sharply as an increasing number of African countries became independent. In 1957, US aid to Sub-saharan Africa was only $26 million (or 1% of total US bilateral economic aid). By 1963, when twenty five African countries had gained their independence, US aid had risen to $274 million.(5) The increases in US aid reflected President Kennedy's interest in Africa and his enthusiasm for the growing number of independent and apparently democratic countries on the continent. (6) However, after Kennedy's death and in the wake of the violence in the Congo and a spate of military coups on the continent, US enthusiasm for supporting democracy and development in Africa began to wane. And with the

intensification of conflict in Viet Nam, US interest in Africa decreased sharply. This decreasing interest was reflected in falling levels of US aid to the continent and was hastened by several US government reports issued in the 1960's which recommended limited US aid to the continent.

7. A number of factors coincided in the beginning of the 1970's to expand and change the direction of US aid to Africa. As the US began to withdraw from the conflict in Viet Nam and with the major drought in the Sahel in the early 1970's, US interest in Africa began to pick up; and US aid, especially for emergency relief and later for longer run development, began to rise once more. This increase in aid coincided with the adoption by Congress in 1973 of "New Directions" in foreign assistance legislation which put a heavy emphasis on using aid to promote the "basic human needs" of poorer segments of the populations in recipient countries.

Poverty Centered Growth or Basic Human Needs: Assumptions and Analysis

8. What distinguished BHN from earlier approaches to development was its emphasis on equity. These earlier approaches, described above, did not completely ignore equity concerns but these concerns did not have the priority they enjoyed in BHN. The fundmental thrust of BHN was on equitable growth, i.e., the reduction of poverty and improvement in well being for the poor in developing countries. Additionally, it was often argued by supporters of BHN that the poor should have a say in the design and implementation of projects intended to benefit them. The poor included small farmers, the landless, the urban unemployed and the urban working class. These groups could participate in development if their access to productivity-increasing assets were increased, for example to cultivatable land or to credit.

9. Fundamentally, more equitable development required a redistribution

of income in developing countries in favor of the poor. There were several views of how such redistribution should be accomplished. The implications of BHN seemed to suggest that existing assets in developing countries, such as land, should be redistributed to the poor. A number of observers recognized that this was politically unlikely short of a major social and political upheaval and such an upheaval could have large and unpredictable costs for rich and poor alike. Redistribution with growth (i.e., the redistribution of additional resources generated by growth) became the preferred approach of many in the development community. (7). Another dispute regarding BHN was whether it should emphasize the expansion in production and employment by the poor which would enable them to provide for their basic needs or whether BHN should also supplement their consumption of basic needs such as food, health and education services.(8)

10. Basic Human Needs was an approach developed primarily by Western development experts and aid donors and implemented as part of their foreign assistance programs. Africans had little input into the elaboration of this approach (although many experts looked to Tanzania for inspiration since that country had adopted a strongly redistributionist approach to development and claimed some success, particularly in the delivery of educational services to its population). In some cases, official Africans at first viewed the approach with some scepticism, as a vehicle for interference in their internal affairs and as a distraction from the issues raised in the New International Economic Order proposals. However, by the 1976 World Employment Conference, most developing countries were prepared to accept the approach and agreed to the Declaration of Principals and Programme of Action of the Conference.(9).

11. Theoretically, BHN does not concentrate on particular economic

sectors, e.g., rural versus urban or agriculture versus industrial. The poor are found in all of these sectors. In reality, however, the rural poor have tended to be the priority target groups for BHN projects since in most developing countries, especially in Africa, the largest number of poor are located in rural areas.

12. The literature of BHN was rarely specific on the time frames in which developmental results would occur or the amount of funding needed to ensure that the poor could meet their basic human needs. The lack of concrete estimates on time and funding is not hard to understand since there was a wide variation among advocates and experts in approaches to BHN on what BHN was and how it was to be achieved. If, for example, one views BHN projects as means of expanding income and employment for the poor on a self-sustaining basis, the time in which such goals can be accomplished could be relatively long. If one aims simply at supplementing the consumption of basic needs among the poor, this goal can be achieved as soon as projects providing such supplements are in place. (Indeed, it was precisely the relatively long time it was likely to take to expand employment among the poor which prompted a number of development specialists to emphasize the consumption-supplementing approach for BHN projects.)(10)

13. Similarly, there were few efforts to quantify the total amount of funding needed to provide for the BHN of the world's poor. However, such totals would be immense, no matter how BHN was defined. One study which sought to project food needs in developing countries predicted that to meet the per capita dietary needs in Sub-saharan Africa by 1990, 36 to 40 million metric tons of food imports per year would be required which at current prices could cost as much as $10 billion. (In 1976, when this study was undertaken, Sub-saharan African food imports were only 2.6 million tons per

year.)(11)

14. To sum up, the philosophical foundations of the BHN approach for foreign aid donors was based on the following assumptions:

—the poor have benefitted little from development thus far

—to ensure that they too benefit from development, they must have more access to assets which will enhance their productivity and improve their quality of life

—the poor should participate in decisions on issues affecting their lives

—development assistance should aim at enhancing the productivity of the poor and providing them with access to such services as health care and education.

15. What are the implications of the BHN philosophy for low resource agriculture? The BHN approach to development is not aimed at low resource agriculturalists except as they are part of the poor in developing countries. However, since the majority of poor in many developing countries, above all in Africa, are low resource agriculturalists, the approach inevitably has major implications for them. By increasing the access of low resource agriculturalists to such assets as roads, credit, extension services, health and education, BHN can promote greater employment and production in this sector (where land and/or labor constraints are not binding) and directly deliver an improved quality of life to farmers. Exactly how BHN affects low resource farmers depends on how the approach is implemented. It is the implementation of BHN to which we now turn.

The Poverty Centered or BHN Approach: Implementation

16. Because of the variety of interpretations of BHN by development experts and practitioners, a wide range of activities came to be classified

as BHN by aid donors as they began to implement the new approach in the 1970's. In implementing BHN, the Agency for International Development focussed on the rural poor but usually not on the poorest (e.g., the landless or inhabitants of environmentally marginal areas). The difficulty of undertaking projects for the poorest of the poor with the expectation of any economic return in the near term resulted in AID's targetting groups and regions which were poor but seldom the poorest.

17. BHN projects often took the form of "integrated rural development". These projects included a broad set of interrelated activities, such as expanded credit, extension, health care facilities, roads and so forth. They were based on the assumption that to improve agricultural productivity and the quality of life in rural areas, a number of linked constraints had to be eased. These projects were frequently failures. They were often complex and depended on an array of bureaucracies cooperating together (or on the effectiveness of a newly created institution set up specifically to implement the project). The difficulties of coordinating different bureaucracies as well as coordinating local and national levels of government put a particularly heavy burden on the project manager. Retaining effective managers over time proved difficult.(12) And, while they attempted to deliver a variety of support to rural producers in Africa, donors did not usually have any new production technologies to offer which would enable the farmer to expand his productivity. Thus, integrated rural development projects often failed to deal with major constraints on small farmer development. Also, planners were frequently ill-informed of the specific obstacles to rural development in areas where they were working. Such obstacles can vary considerably from place to place in Africa with the variety of cultural and physical environments. As a result,

projects failed because of inappropriate design.(13)

18. US AID and other donors found that there were limits on how much foreign aid African countries could absorb for BHN projects. Specific constraints on absorptive capacity included the lack of trained individuals or trainable individuals to operate such projects, local government revenues inadequate to cover the domestic costs of setting up such projects and later, to maintain them in full once foreign aid donors have withdrawn; infrastructural facilities necessary to operate the projects; and government officials who could monitor them.

18. A Basic Human Needs focus in development assistance would seem to suggest the concentration of such aid in countries whose policies were most consistent with that approach and whose governments could most efficiently absorb such assistance. On these criteria, one would expect to see US aid concentrated in Tanzania where the government embrassed redistributive policies or in Cameroon, where the government had demonstrated it could use national resources relatively efficiently. Thee countries were not among the major recipients of US aid to Africa. Rather, the Sudan, Kenya, Somalia, Zaire and Liberia were. This country allocation reflects the political factors which influence aid, as previously mentioned. The sectoral allocation of aid is perhaps more reflective of BHN priorities. AID has for some time allocated the largest proportion of its aid to agriculture. Other major sectors are health, education and family planning. However, even the sectoral allocation of aid can be a poor guide to the amount of aid serving BHN objectives since projects with a wide variety of objectives and components fall into these categories. The only way to determine whether projects are BHN is to examine them individually. Nevertheless, there does seem to have been an emphasis in AID's approach to

development in the 1970's which suggests a strong influence of BHN, in terms of the emphasis on primary health care, primary and non-formal education and nutrition intervention (particularly with PL 480 Title II feeding programs).

19. Looking back today, it is hard to identify major successes in the BHN approach to development. The Tanzanian economy is in a shambles, in significant part because of the policies and institutional weaknesses of that country's government. Its rural development policy — Ujamaa — which was to relocate farmers into villages where services could be provided efficiently is also generally regarded as a failure. It was implemented insensitively, too quickly and without the support and willing participation of the farmers themselves. But it may be unfair to point to Tanzania as a BHN disaster. The problem with BHN there as elsewhere is that it was never really tried. A major weakness in the Tanzanian experiment was the absence of small farmer participation. This, combined with poor planning and implementation, undermined the objectives of Tanzanian policies of improving the productivity and quality of life of its small farmers.

20. Another major source of difficulties for BHN projects has been financial. Projects expanding services to the poor require on-going government expenditures, including the expenditure of scarce foreign exchange for imported goods (e.g., medicines, books, and fuel and spare parts to operate vehicles). With the world recession of the 1980's and the collapse in the prices of primary products on which most African governments depend for their exports, foreign exchange has become extremely scarce and government budgets have been sharply squeezed. As a result, governments have often abandoned projects or continued paying the salaries of those employed in the project while starving the project of any commodities. As a reflection of the shortage of government revenues, a number of governments

in Africa are considering charging fees for such services as primary education. This move would ease revenue shortages but would at the same time likely exclude the poor from access to schooling. In short, a fundmental problem with BHN projects is that they added to government expenditures without increasing government revenues. With many African governments financially overextended in any case and donors often unwilling to finance local costs or the maintenance of projects, BHN projects frequently cannot be sustained effectively and have been abandoned or allowed to deteriorate badly.

21. What can be said about the implementation of BHN in terms of its impact on low resource agriculture in Africa? With the emphasis on promoting development in rural areas, much of BHN-type assistance has financed activities of potential benefit to low resource agriculturalists. Improved health care and educational opportunities, expanded rural roads, upgraded seeds and other inputs have undoubtedly benefitted poor farmers when they have been available in a timely fashion. But many of these services have proven unsustainable in the face of severe financial crises facing many African governments. Moreover, BHN projects have failed to address the two principal constraints to expanding the productivity of low resource agriculturalists: the lack of viable, technical packages of inputs and techniques which will make land and/or labor more productive; and the macro-economic policy and institutional frameworks which often discourage increases in agricultural production and productivity.

Accelerated Development or the Policy Reform Approach: Assumptions and Analysis

22. By the end of the 1970's, development specialists were beginning to feel uneasy with BHN. Foreign aid to Africa has risen sharply between

1975 and 1980, easing the impact on oil-importing countries of the quadrupling in the price of oil and for all countries, easing the continuing rise in the price of manufactured goods imports. Yet, with all the increases in foreign aid, African countries were doing worse than ever. Growth had slowed. Infrastructure was beginning to deteriorate for want of maintenance. Per capita agricultural production was declining in many countries, a reflection of both rapidly accelerating population growth rates and slowing increases in agricultural production.

23. Africans themselves were becomming concerned with the looming economic crisis many of them faced. In 1980, they asked the World Bank to undertake a comprehensive study of their economic plight. This study, Accelerated Development in Sub-Saharan Africa, published in 1981, became one of the intellectual cornerstones of a new approach to aid-giving — that of policy-based lending. Another cornerstone was the ideological commitment of the new Reagan Administration to reducing the role of government and expanding the role of the private sector in the US. This commitment extended to the Administration's approach to development abroad and was most clearly articulated in the President's speech lauding the "magic of the market place". Government in Africa and elsewhere was seen as an obstacle to a vigorous private sector and healthy economic growth. African government policies needed to be reformed and governments themselves streamlined and made more efficient and permit expanded scope and activity for the private sector. The growing economic crisis in Africa, the World Bank's assessment of the causes and cures of that crisis and the attitudes of the new Reagan Administration all resulted in a quiet move away from a focus on Basic Human Needs in foreign aid policies towards an emphasis on policy reform.

23. The World Bank's *Accelerated Development in Sub-Saharan Africa* argued in effect that aid to Africa (and to African agriculture) had been ineffective and would continue to be ineffective if government policies and institutions which acted as obstacles to growth were not reformed. Such policies and institutions included agricultural pricing which favored urban consumers and left farmers with low returns for their work; overvalued exchange rates which depressed demand for domestic products (including foodstuffs) and increased demand for imports; government deficits which fed inflation; inefficient parastatals (quasi-government institutions responsible for a variety of activities such as governing economic activities or actually performing them) which, for example, were responsible from procuring farm products for farmers but which often failed to pay farmers immediately or which were supposed to deliver inputs but which failed to do so or did so too late for the inputs to be useful. Governments had also made very poor investments over past decades, financing activities (often for largely political reasons) which were uneconomical or had low rates of return.

24. The list of policy pecadillos of African governments was a long one and they all pointed in one direction — governments had used national resources inefficiently to promote growth. Policy based foreign aid was aimed at improving the efficiency of resource use by encouraging governments to improve incentives for production, improve the returns on investment and improve the efficiency of government itself. Over time, the emphasis on encouraging African governments to become more efficient shifted to an emphasis on reducing the role of government in African economies by eliminating inefficient government organizations or by "privatizing" (i.e., selling off) parastatal activities.

25. Thus, by the beginning of the 1980's, the philosophical orientation of aid-giving began to shift from an emphasis on ensuring an equitable distribution of the benefits of aid to ensuring an efficient use of aid in promoting economic expansion. Equity considerations were not ignored entirely in the new approach, but they assumed a significantly lower priority than under the BHN approach. As with earlier approaches to development, economic growth again had the highest priority. The shift from BHN to policy reform was not sudden or dramatic and support for BHN projects by donors was not immediately discontinued. (Indeed, it continues today.) But as the 1980's wore on, the emphasis on policy based lending in the US, in the World Bank, and, increasingly, by other bilateral donors as well, became the most prominent approach to aid to Africa.

26. There is, however, some uncertainty as to just how policy based lending is to promote reform in African countries. There are two principal avenues which donors can take to linking their aid to policy change by recipients: aid which follows policy reforms already underway by recipient governments (or *ex post*, as this approach has been termed); or aid which is made available in support of policy reforms negotiated between donor and recipient, usually as a result of a "policy dialogue" in which each party educates and persuades the other (also called *ex ante*).(14) In reality, the approach followed in most circumstances appears to be a mix of dialogue and negotiation between donors and recipients in which the donors have the greater leverage by virtue of their ability to provide foreign exchange resources which recipients need — often desperately.

27. Another area of uncertainty or controversy involving the policy reform approach to aid is exactly how should the provision of loans or grants from aid donors affect the adoption of reforms by recipients.(15) If

the reforms are good for recipients in any case, goes one version of the controversy, why should donors in effect pay for them? The 1981 World Bank report called for more aid to countries 'to lubricate the process of reform'. What this somewhat obscure formulation was suggesting is that governments undertaking reforms often must face and overcome strong resistance at home by interests which are damaged by reforms. As a result, they may need help to ease that resistance or to expand the number of supporters of reform if the reforms are to be sustained. An example of this approach is currency devaluation. Many African countries have suffered from over valued exchange rates which, in turn, have discouraged exports (including agricultural goods) and encouraged imports and often encouraged corruption and black marketeering. However, governments have often resisted devaluing their currencies for fears that the prices of imports would surge and provoke a political reaction at home. They have often appealed to aid donors to provide them with the foreign exchange to stock up with imported goods before the devaluation so that the price effect on imports of a devaluation would be less sudden and sharp.

28. Another argument which attempts to link foreign aid to policy reform in a substantive way points out that reforms may be necessary but are not sufficient to ensure economic recovery and growth in many African countries. These countries, starved of foreign exchange, need imports of raw materials, spare parts, consumer goods (as incentive items for domestic producers) and so on if economic production is to resume. Foreign aid is a crucial source of foreign exchange and without it, policy reforms may have little immediate positive effects on economies.(16) A final argument in this as yet inconclusive debate is that foreign aid can be a serious disincentive to reform and recovery by permitting governments to avoid hard

choices. The implication of this argument is tht aid should be reduced rather than increased to promote reforms. These arguments are unlikely to disappear in the near future since the policy reform movement in aid giving is still new and it may be too soon to determine whether it is successful in promoting recovery and growth in Sub-saharan Africa.

29. To what extent have African countries and officials themselves contributed to the policy reform movement and to individual programs of reform? At the rhetorical level at present, many African leaders support the need for reforms. And obviously, without their support or at least acquiesence, reforms would never be undertaken. However, Africans have shown some ambiguity toward such reforms in the past.

30. When African government officials first approached the World Bank for a study of their economic situation, their heads of government were already committed to the Lagos Plan of Action, agreed to at the 1980 meeting of the Organization of African Unity. This Plan's principal development strategy involved import-substituting industrialization writ large for the entire continent. African experts recognized that national efforts at industrialization during the past decades had largely failed. Industries were inefficient, costly and could not compete in foreign markets (or in their home markets without a great deal of protection). The relatively small markets of most African countries were diagnosed as a major constraint on efficient industrialization. Effective national demand for locally produced goods and services would be small and resource bases would be limited. If, however, African countries could unite to form larger markets, these constraints would be eased. The Lagos Plan proposed that sub-regional common markets be formed immediately to link African economies and that by the year 2000, these markets would be merged to form one common market for

the entire continent. There was little recognition in the Lagos Plan of the policy failures of Africans themselves and while agriculture was not ignored, it did not receive major attention. Africans had sought the help of the World Bank through a study of their problems not because they wanted an examination of their policy shortcomings but because they hoped that a World Bank report on their deteriorating economic condition might focus world attention on their problems and encourage additional assistance.

31. When Accelerated Development in Sub-saharan Africa was published in 1981 it raised a storm of criticism from African officials and some Western economic experts as well.(17) Much of this criticism in fact was quite emotional and focussed on the style of the World Bank generally and as reflected in the report (i.e., the Bank was accused of being paternalistic, intrusive and insensitive to African needs and aspirations). Ironically, the current tone of international discussions of African economic problems have changed dramatically and now sounds very much like the message of the 1981 World Bank report. At the recent Special UN General Assembly Session on Africa's Economic and Social Crisis, the document prepared by the Organization of African Unity and supported by African heads of state conceeds Africa's own responsibility for its economic malaise, including policy failures by African governments themselves and their need to undertake reforms.(18) This document hardly mentions the grand development strategy included in the Lagos Plan. And in fact, from conversations throughout Africa, it has long appeared to this writer that few economic and financial officials (as opposed to Foreign Ministry officials) of African governments never took the Lagos Plan seriously. They knew well that it was likely to prove unworkable in the face of nationalism and economic realities in Africa. They were also frequently well aware of

their own government's policy failures but for obvious reasons, they were also discrete about pointing out those failures in public. This history suggests tht Africans have at least at first reluctantly participated in "policy dialogues" with aid donors about needed reforms. At present, Africans appear to have accepted the need for reforms and are much more willing participants in reform efforts. These appearances, however, are not conclusive. Africans may be manipulating donors, simply experimenting with alternative economic policies or really committed to reform. Only time will tell.

32. To summarize the pholosophical foundations of the Accelerated Development or Policy-Reform approaches, the basic premise is that African governments, because of institutional weakensses, lack of adequately trained personnel, the intrusion of politics and other factors, have allocated national resurces inefficiently. Policies and institutions must be reformed if recovery and growth are to occur. Foreign aid should be used to encourage and support such reforms and to ensure that they do not fail for want of adequate funding. Of course, the types of policies and institutions in need of reform vary from country to country. The policy reform approach at the philosophical level does not single out any sector (e.g., agriculture or industry) for priority. Macro-economic policy reforms such as currency adjustments or limitations in government expenditures can affect all sectors. Some reforms, such as pricing or subsidy policy changes are targeted at a specific sector (packages of such reforms are termed "sector programs"). In Africa, such reforms have often been targetted at the agricultural sector.

33. Development results from policy reforms can occur rapidly if the reforms remove a significant obstacle to expanded production for example,

disincentive prices. Expanded production can lead to increased income for producers and can facilitate saving and investment which in turn can support sustained increases in production and income. Amounts of funding needed to support policy reforms are normally based on calculations of "resource gaps", i.e., that amount of extra resources which is needed to achieve a particular growth rate. One recent estimate(19) estimated that low income Africa will require $11 billion per year in concessional flows between 1986 and 1990 to halt the decline in income and achieve a growth rate of 3-4% per yar. Aid levels were projected at $8.5 billion per year, leaving an annual resource gap of $2.5 billion. These numbers may have increased with the drop in US aid during the past year.

34. What is the relevance of the policy reform approach for low resource agriculture in Sub-saharan Africa? As has already been pointed out, policy reform is an approach not specifically tailored to any one sector or group of producers, though specific reforms can benefit (or hurt) the interests of such sectors or groups. The policy reform approach can bring benefits and risks for low resource agriculturalists. If the trend so common among African governments of taxing agricultural production heavily, fixing low prices for food products or controlling trade in agricultural products is reversed, the incomes of farmers should rise. However, freer domestic markets for agricultural trade can entail greater risks and possibly some short-term dislocations for farmers as governments withdraw from procurring or transporting farm produce. Agricultural prices free to fluctuate with supply and demand may become more volatile, possibly increasing the risks to farmers who lack information or flexibility to change their production patterns. The expectation among policy reform advocates is, however, that most farmers will in the long run benefit from

freer markets, from higher prices for their products and from a larger number of alternatives in the choice of what they produce and when and how they sell. All of this assumes that farmers in fact have the flexibility to expand and adapt their production . Where physical, economic and technical constraints reduce that flexibility, policy reforms may prove to be necessary but not sufficient to promote the sustained development of low resource farmers.(20)

35. History has demonstrated that statements and commitments at the level of rhetoric in Africa (and elsewhere) are not always reflected in policies. However, many African governments, have in fact undertaken a wide range of reforms, including currency devaluations, reductions in subsidies, increases or revsions in tax regimes, limits on government expenditures, firings of redundant civil servants, liberalization in trade regimes, liberalization in domestic trading practices, streamlining or eliminating government organzations and so on. For example, the World Bank in its 1985 Annual Report cites thirteen African countries which have initiated and sustained extensive reforms involving significant restructuring in their economies and a number of other countries which were considering such reforms. However, it is sometimes difficult to be sure how real a reform is. For example, a devaluation can be meaningless if governments raise domestic wage rates at the same time. Firing civil servants from one parastatal and hiring them at another is also possible. World Bank and Agency for International Development officials are often positive on the reforms in one country today only to be negative the next day. And there is occasionally considerable disagreement among donors on what reforms are needed and which have been accomplished. IMF and the World Bank officials have been particularly critical of one another's reform programs (in

private), reflecting the different missions and the different styles of the two institutions. It must also be remembered that success in implementing reforms is not the same as success in promoting growth. There has been considerably more success thus far in the former than in the latter goal in Africa in recent years, in large part because the resources needed for recovery and growth have been scarce and reforms have often been partial.

36. The thrust of the policy reform movement has thus far included little focus on equity concerns. Its main emphasis has been on the efficient use of resources to promote national growth, even if more efficient resource use has a negative impact on poorer groups in African countries. In fact, many of the reforms which African governments have begun to implement should benefit the rural poor — particularly small farmers — as income shifts from urban consumers and producers to rural producers. Exchange rate devaluations will have a similar effect. Those most hurt by these changes are likely to be the urban poor and the urban middle classes who rely on fixed wages, who spend significant proportions of their income on imported goods, and who have frequently been the major beneficiaries of government services. Increasingly over the past year, development specialists have begun looking at the equity implications of policy reform (and this is likely to be the principal focus of some of the work of the Overseas Development Council over the coming year). But in the immediate future of policy-based lending, equity concerns appear likely to remain secondary to concerns for efficiency and growth.

37. Even though the objectives and approaches of policy reform and BHN are quite different, the two approaches are complementary. Projects aimed at benefitting the poor cannot be successful if overall economic policies undermine their success and cannot be sustained if governments are unable to

finance them. Policy reforms aim at easing these obstacles. But policy reform is not particularly aimed at improving the quality of life of the least advantaged in developing countries and indeed can actually hurt them where policy changes reduce their real income or eliminate their jobs.

38. In theory, countries benefitting from policy based aid should be those with the most efficient, effective policies or those willing to put such policies into place. In practice, the distribution of US aid to Africa reflects as it has done in the past, political priorities as much as developmental ones. Indeed, two countries in Africa which have adopted or followed relatively efficient policies in recent years -- Ghana and Zimbabwe -- have received relatively little aid in recent years. US aid to Zimbabwe has recently been terminated for political reasons and the Reagan Administration has varied from luke warm to cold toward the populist government of Ghana. This is not to suggest that economic concerns play no role in US aid allocations. They do in fact play a role as reflected in the threats last year by the US to halt some of its aid to the Sudan and more recently, to Liberia if reforms are not undertaken. However, it is difficult for any administration to withhold aid from strategically important governments even if those governments pursue wasteful economic policies. What continues to determine US bilateral aid allocations is a mix of objectives in which development and policy reform play a role but not always the most prominent role. The mix and occasional conflict among objectives of aid giving can reduce the effectiveness of aid in promoting development through policy reform. But as has already been observed, the effective of aid on policy reform, the extent of such reforms and their impact on development in Africa is still unclear.

Conclusion

39. US development assistance today is a patchwork of approaches. BHN projects are still being funded although AID clearly wishes to move away from its traditional emphasis on project funding and use a proportion of development assistance (together with Economic Support Fund monies and food aid) in support of policy reform. ESF funds have been used primarily in support of policy reform although these funds were cut sharply last year. For Fy 1988, the Administration is proposing to create a $500 million fund with the flexibility to support both project and policy based lending in Africa.

40. This apparently chaotic mix of programs can be appropriate to the different and changing needs and opportunties for supporting low resource agriculture in Africa. The differences among African countries in terms of national endowment, population/land ratios, environmental conditions, historical experience, degree of development, extent of policy and institutional distortions and prospects for the future vary enormously. And we must admit that we do not always know what combination of assistance programs will work best to promote the development of low resource agriculture in individual countries. It would be a mistake if, in the interests of neatness and coherence, the Administration were required to follow one or another formula of assistance for all of Africa.

41. Several trends, now evident, appear likely to continue in US aid to Africa. First, the emphasis on policy based lending is likely to continue and perhaps strengthen. African governments have demonstrated limited abilities to sustain BHN projects but many are desperate for foreign exchange to finance essential imports. Policy based lending provides that foreign exchange. Second, the size of US aid to Africa appears likely to stagnate at best and could drop in coming years if Congress cuts as much out

of the Administration's request this year as it did last year. And since Congressional cuts were strongly influenced by concerns about the overall federal budget deficit, it would seem likely that deep cuts in the Administration's 1988 request will again be made. Moreover, these cuts are likely to fall especially heavily on African programs which do not have the priority of other major US aid programs. Finally, political considerations will continue to play a significant role in the allocation of US aid to African countries. Kenya, Somalia, the Sudan, Zaire and Liberia will all continue to receive significant proportions of total aid to Africa.

42. What are the implications of current trends for low resource agriculture in Africa? US aid will play a diminishing role generally in African development as the size of concessional assistance stagnates or declines. Nevertheless, US assistance can continue to assit low resource agriculturalists. Projects targetted at these groups can improve the quality of their lives; policy reforms can help improve the quantity of agricultural production and remove obstacles to expanded production.

43. However, there are important limitations on the degree to which US aid can assist low resource agriculturalists, even when policy based lending and BHN projects are well coordinated. First, neither type of aid addresses the technical constraints on expanding low resource agricultural production. Agricultural research may eventually develop viable technical packages to enable such farmers to become more productive. But for the most part, such packages are not yet available. Second, it must be recognized that in many cases, African governments have been unconcerned with low resource agriculturalists at best and at worst reluctant to channel resources to this sector. Low resource farmers, although often the majority of the population, are in most African countries relatively powerless. They lack

the political voice and influence to promote and protect their own interests. Moveover, they often produce traditional food crops for domestic consumption rather than for export. Governments eager for foreign exchange have been less interested in promoting the expansion of traditional food crops and have allocated few resources to the development of these crops. Finally, there are the political concerns which govern US aid. These will always be present. But in recent years, they have been particularly prominent in US aid giving. Clearly, the US cannot sustain a development program in countries which act consistently in ways harmful to US interests. Ethiopia comes to mind as a possible example of this type of country. What is unfortunate are cases where aid programs are interrupted, cut or eliminated to countries which vote against the US in the UN, criticize the US occasionally in public or whose leaders mouth 'Marxist' dogma while acting like clever capitalists. There will always be political considerations in US aid giving and this is both appropriate and unavoidable. The key question is the balance between these considerations and those of long run development. It would be unfortunate if that balance is upset in favor of short run political objectives or emotional reactions to annoying (but not seriously damaging) behavior on the part of countries receiving US aid.

Footnotes

1. Office of Technology Assessment, Statement of Work, August, 1986.

2. For several useful histories of development thinking during this period, see John Lewis, "Overview: Development Promotion: A Time for Regrouping" in John Lewis, ed., Development Strategies Reconsidered , Overseas Development

Council, Washington, 1986 and Robert Wood, *From Marshall Plan to Debt Crisis* , University of California Press, 1986.

3. Hollis Chenery, et.al., *Redistribution with Growth*, Oxford University Press, 1976

4. Another persuasive case for this view is found in David Morawetz, *Twenty Five Years of Economic Development* , The World Bank, 1977.

5. AID, *US Overseas Loans and Grants* , July 1, 1945 - September 30, 1981, Washington, DC.

6. For a history of US policies toward Africa in the Kennedy era, See Richard Mahoney,*JFK: Ordeal in Africa* , Oxford University Press, 1983.

7. See Chenery, *op.cit.*

8. Paul Streeten, *et.al.* make the case for BHN to supplement consumption on the part of the poor in *First Things First*, Oxford University Press, 1981.

9. See International Labor Organization, *Employment, Growth and Basic Needs* , Praeger, 1977

10. Paul Streeten, *Ibid.*

11. International Food Policy Research Institute,*Food Needs of Developing Countries*, Washington, DC, 1977.

12. See, for example, AID, Project Impact Evaluation Report No. 61, *Burkina Faso: Integrated Rural Development Projects in Seguenega and Dori Departments*, May, 1986.

13. Uma Lele, *The Design of Rural Development: Lessons from Africa*, Johns Hopkins Press, 1976.

14. For a discussion of this issue, see AID Policy Paper, *Approaches to the Policy Dialogue*, Washington, D.C. 1982.

15. For an examination of this issue, see Elliot Berg and Alan Batchelder, "Structural Adjustment Lending: A Critical View", xerox, Jan. 1985.

16. This is essentially the argument in the*Compact for African Development*, Report of the Committee on African Development Strategies, The Overseas Development Council and the Council on Foreign Relations, 1986.

17. See, for example, the *Institute of Development Studies Bulletin* No. 14, 1983 *The African Studies Review*, Vol 27, No. 4, Dec. 1984.

18. Organization of African unity, "Africa's Submission to the Special Session of the United Nations General Assembly on Africa's Economic and Social Crisis" OAU/ECM/2XV/Rev.2, March, 1986.

19. World Bank, *Financing Adjustment with Growth in Sub-Saharan Africa, 1986-1990*, Washington, D.C., 1986.

20. This is a point frequently made by John Mellor. See his article with Christopher Delgado, "A Structural View of Policy Issues in African Agricultural Development",*American Journal of Agricultural Economics*, Dec. 1984.

FINAL DRAFT

LOW-RESOURCE AGRICULTURE IN AFRICA

Alternative Models of Development Assistance to Low-Resource Agriculture in Africa

by

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FINAL DRAFT

EXECUTIVE SUMMARY

The paper examined promising development assistance models to aid low-resource agriculturalists in Africa. This target group is generally poor, and has limited access to and control over land, water, labor, capital, external sources of information and technology, and external inputs like commercial fertilizer. Most striking is the degree to which the crisis in African agriculture has galvanized the attention and set the agendas of donors worldwide. This is true for organizations with broader, multi-sectoral mandates, such as AID and the World Bank, but it also holds for private voluntary organizations and specialized agencies as well.

The review consisted of two major parts: (1) a summary of newer initiatives and overall strategies of key actors in development assistance, focusing on AID and the International Fund for Agricultural Development (IFAD) and, (2) selected approaches most likely to solve dilemmas confronting low-resource African agriculture.

The paper pointed to the need for a mix of strategies at the international, national, and project level. At the international level six strategies were proposed: altering the international economic environment; increasing donor coordination; maximizing regional cooperation; increasing South-to-South assistance; educating the public about development issues; and using extra-government fund-raising opportunities to supplement traditional assistance programs. Four national-level models were advocated. These included, but were not limited to: making agriculture a national priority; establishing appropriate agricultural policies and strengthening capacity for policy analysis; developing effective agricultural research for small-holders; and promoting a realistic allocation of roles for the public and private sectors in the rural areas based on the comparative advantages of each. Alternative approaches at the project level included creative use of PL 480 funds and enhanced involvement of non-governmental and intermediary organizations in project implementation. Five key elements for project-level success were identified: simplicity, stability, flexibility, local participation, and management capacity.

Highlights of the review included:

1.- One of the quickest way to lift African agriculture from its current stagnation was for AID and other donors to support reforms in producer incentive structures. Results can be seen within a year whereas credit, and technology transfer programs, also essential, have much longer gestation periods. AID's experience in policy changes and structural adjustment in Africa showed farmers responded quickly to freer markets and price signals and made choices that maximized their welfare with major beneficiaries being small farmers.

2. Donor-assisted policy reforms led to significant increases in food production in Somalia, Zambia, Zaire, and Zimbabwe.

3. Although there is a temporary lull in the African food crisis, long-term outlooks are pessimistic because of human capital shortages and institutional and administrative shortcomings in Africa.

4. Technology to aid low-resource African agriculture may not be available as it was for the Asian Green Revolution.

5. African small-holder agriculture would be enhanced by shifts in roles and responsibilities among government, private sector, and communities/farmers. Each should operate from its comparative advantage. For example, African governments should reduce their roles in marketing agricultural outputs, and should provide essential services and facilities which private markets cannot.

6. While few truly innovative strategies to aid low-resource African agriculture exist and little documentation and analysis of these are available, donors have learned that certain approaches are not viable. For example, the integrated rural development (IRD) projects of the 1970's were probably too complex and expensive and often exceeded the administrative capacity of African governments.

Background

1. Increases in African food production have been outstripped by rapid population growth. A cascade of problems including falling commodity prices, accelerating environmental degradation, domestic policy shortcomings and unmanageable international debts have been exacerbated by drought and other natural disasters. If current trends persist, all but four African countries will become net agricultural importers by the year 2010. (FAO, 1986).

2. On a continent where agriculture is the basis of most national economies, subsistence farmers, often women, are the principal labor force. Increases in food production and solutions to other problems of low-resource agriculture (LRA) in Africa can and must be realized through these small-scale farmers and herders. In fact, Mellor (1986) argues persuasively that agriculture in Africa should be viewed as a primary development opportunity which, handled right, can produce enough food for expanded populations even with average consumption up substantially.

3. In developing countries, rising incomes of the poor, derived from employment growth, are converted by high demand elasticities to increased effective demand for food. (Sixty to eighty percent of incremental incomes are spent this way). Therefore, increased food supplies and increased employment go hand in hand. Further, accelerated food production can potentiallly set in motion powerful multiplier forces on income and on employment growth in other sectors. However, science and

technology must be fully utilized to lower agricultural prices. High-technology agriculture will employ some of the increasing numbers of job-seekers in both on and off farm jobs. And the resulting increased demand for urban goods will give rise to more employment in urban areas. (Mellor 1986, 1987).

Purpose

4. The purpose of this paper is to examine emerging and promising development assistance (DA) models, principally those of USAID, but also other donors where instructive and relevant. Although the focus throughout is low-resource agriculture in Africa, adaptable models from other continents are discussed. The paper's primary aim is to analyze and evaluate potential strategies with a view to informing U.S. development assistance decision-makers.

Methodology

5. The literature on alternative models of development assistance is scattered and often anecdotal. The researcher approached the problem by identifying and reviewing strategic documents of major development assistance agencies and held personal/telephone interviews with agency officials. These included AID, Peace Corps, the World Bank, African Development Bank, African Development Foundation, Food and Agriculture Organization, International Fund for Agricultural Development, European Communities, Organization for Economic Cooperation and Development, International Agricultural Research Centers and numerous Private Voluntary Organizations (PVOs). Independent

scholars, noted for expertise in African agriculture, were also contacted. Further, an announcement requesting information on successful strategies was placed in Interaction's (American Council for Voluntary International Action) Monday Development newsletter which circulates to 450 development professionals, primarily from PVOs.

Organization of the Paper

6. The paper consists of two major parts. The first section summarizes the actors in development assistance, their newer initiatives and overall strategies. Section two extracts from this discussion and synthesizes selected approaches most likely to contribute solutions to dilemmas confronting low-resource African agriculture.

7. To the extent possible, strategies are analyzed with these factors in mind:

- philosophical/political foundations,
- levels of African participation,
- equity considerations,
- priorities the approach gives to the agricultural sector,
- time frames for development results to occur, and
- anticipated results and funding requirements where known.

8. With regard to implementation, alternative models are assessed where possible with respect to:

- priorities within African countries/regions,
- changes required in host countries for the approach to succeed,
- successes and failures,
- complementarity of the approach with AID/ other donor strategies,
- continuity of programming if old models are phased out,
- compatibility with current declines in donors funding and,
- alternative sources of assistance to implement the approach.

9. Not every factor was applied to every strategy because of page restrictions and data availability.

Definitions

10. a. The Office of Technology Assessment (OTA) of the U.S. Congress defines low-resource agriculture as:

> Agricultural systems used by poor, small-scale farmers and herders that rely principally on local inputs in order to support household activities. While these systems are diverse, they generally share certain important characteristics, such as being:
>
> - low-risk rather than high-yield
> - low-cost
> - dependent upon local knowledge
> - dependent upon biological processes and renewable resources
> - adapted to local environments and cultures
> - dynamic and experimental within constraints imposed by risks
> - diversified

11. Low resource agriculturalists "generally are poor and have limited access to and control over land, water, labor, capital, external sources of information and technology, and external inputs such as commercial fertilizer."

12. b. Development assistance in agriculture is non-military aid provided to developing countries for the purpose of improving the quality of life; maintaining or improving indigenous resources and systems; ensuring economic and environmental stability; and improving agricultural production, marketing, storage, and processing. External development assistance is often supplemented by in-kind or local resources. Development assistance in agriculture may take such forms as: technical assistance to advance the research, human resource base, or agricultural institution base; provision of inputs such as better livestock, fertilizer or crop varieties; large-scale capital improvements, such as road and bridge construction to enhance market access; or resource transfers to leverage agricultural policy reforms.

13. c. In this paper, alternative models or strategies refers to promising trends in development assistance. These are not so much separate or distinct models, but rather sets of interrelated conditions and approaches. Some are relatively new for a particular donor, e.g., private sector initiatives in AID. Others are old stand-bys, perhaps prematurely abandoned and now regaining favor. The author determined that a fairly comprehensive overview best served OTA's needs. Any sacrifice of depth

for breadth can be remedied by later detailed analysis of selected strategies.

I. DEVELOPMENT ASSISTANCE AGENCIES

14. The purpose of this first major section is to summarize the newer initiatives and strategic overall trends of development assistance agencies supporting African agriculture:

- United States Agency for International Development (USAID)
- World Bank
- Peace Corps
- United Nations Food & Agriculture Organization (UNFAO)
- International Fund for Agricultural Development (IFAD) a specialized agency of the U.N.
- African Development Bank (AFDB)
- African Development Foundation (ADF)
- Other key bilateral donors, e.g. European Communities (EC), and
- International Agricultural Research Centers (IARCs)/-Consultative Group on International Agricultural Research (CGIAR).

United States Agency for International Development

15. This discussion of AID covers the following topics: (1) key elements of AID's strategy and its new Blueprint for Action; (2) comparison of development and security assistance budgets for FY 1981 through FY 1987; (3) the emerging trend to non-project assistance; and (4) programs of special groups funded by AID set-

asides, especially universities and private voluntary organizations.

16. (1) AID's Strategy. There are four cornerstones in AID's long-range development strategy: (a) policy dialogue designed to help leaders implement policy reforms conducive to development; (b) institutional development and training; (c) technology research, development and transfer using U.S. and host country institutions; and (d) reliance on the private sector and market forces as the principal engines for sustainable development. All four basic components have been applied to AID's agricultural initiatives with varying degrees of success as we will see in Section II.

17. AIDs strategies have been amplified in the recent document, Blueprint for Development, a strategic plan the Agency now uses to coordinate efforts with other donors and host countries, and to prioritize and clarify its own efforts. The Blueprint identifies five goals and sets specific targets for the Agency in the areas of hunger, disease and early death, illiteracy and lack of education and unmanageable population pressures.

18. In general, AID is emphasizing technical assistance and self-help. Although resource transfers will continue in the Economic Support Fund (ESF), they will be linked increasingly to the four cornerstones of: policy reform, using market forces, institutional development, and the research, development and distribution of practical technology.

19. (2) AID Budget: Development Versus Security Assistance. Funding for developmentally-oriented activities under the U.S. Development Assistance (DA) account has not grown in real (constant dollars) from 1981 to the 1987 administration request. In contrast, during this same period, U.S. security assistance (Economic Support Fund, Military Assistance Programs, and the Foreign Military Credit Sales Program) increased by 60 percent (100% in current dollars). The bilateral DA account totalled $1.276 billion in 1981. The 1987 request for $1.627 billion represents no real growth. During this same period, security assistance rose from $5.296 billion in 1981 to $10.751 billion in the 1987 request. Although some fraction of the ESF account goes to development activities, the U.S. has not increased real development assistance in the face of growing world needs especially in Africa. Specifically, the AID budget allocation to agriculture has fallen both absolutely and in percentage terms from 53 - 56 percent of the total functional accounts from 1977 through 1984, to 46 percent in FY 1987 and 44 percent of the FY 1987 request (BIFAD, 1986). (Besides agriculture/rural development/nutrition, the other functional accounts include population planning, health, education, science and technology and others.) In reality much of AID's assistance to Sub-Saharan Africa has been famine relief and humanitarian aid. In contrast, development assistance which strengthens agricultural institutions would have provided greater rates of return. (Johnston et al, 1987).

Further, a declining budget for agriculture does not bode well for LRA efforts.

20. (3) Non-Project Assistance. AID has traditionally used a "project" orientation to development. Recently, however, there is movement toward broader "program-oriented" assistance. Also known as non-project assistance (NPA), this approach does not usually involve separate discrete development projects. Non-project assistance (NPA) includes: Food for Peace P.L. 480 programs, Titles I and III in particular; Commodity Import Programs (CIP), and cash transfers, e.g. to support economic policy reforms and stabilization efforts as well as program sector assistance. (USAID, 1986).

21. Increases in non-project assistance are attributable to:

- lack of AID personnel to design & manage projects thus leaving large amounts of obligated money unspent. (This is due in part to the security measures of reducing U.S. personnel abroad).;
- lack of host country counterparts and of management capability to implement projects;
- AID's view that NPA funds buy a seat at the policy table; and
- The fact that NPA is one of the most direct ways to aid private enterprise development, a cornerstone of this administration.

22. This tilt from project to program assistance, particularly that directed toward policy reforms, is not without

controversy. Some claim that policy reforms help the rich while project assistance more directly aids poor people.

23. Coordination among donor groups is essential for implementing policy reforms. This prevents donors from being played off against one another or imposing contradictory policy measures. Impacts of policy reforms on LRA are discussed in Section II.

24. (4) Programs of Special Groups Funded by AID. Certain shares of the AID program are earmarked for implementation by special groups including universities and private voluntary organizations (PVOs).

25. Universities. The 1975 Title XII Amendment to the Foreign Assistance Act established a partnership between U.S. universities and AID for strengthening institutions in developing countries in food, agriculture and nutrition. In 1986, the Board for International Food and Agricultural Development (BIFAD), which oversees implementation of Title XII, established an agenda for its second decade. Successful Third World agricultural development will require strengthening and building institutions to:

- educate and train agricultural personnel
- develop improved agricultural technology; and
- disseminate appropriate technology to users.

While university-aided development efforts do not specifically target low-resource agriculture, their assistance to supporting research, education and outreach institutions is essential to long-term solutions.

26. PVOs. The Foreign AID legislation states that PVOs should implement not less than 13 1/2 percent of the aggregate amount appropriated for agriculture, population, health, education, Sahel selected development assistance and disaster assistance. Funds made available by AID to PVOs, excluding the Food For Peace or Public Law (P.L.) 480 program increased 650 percent in the 10 years between FY 1973 ($39 million) and FY 1983 ($254 million). In FY 1985, 17 percent of AID's work was conducted by PVOs. Clearly AID sees a major and expanding role for PVOs.

27. Responding to the crisis in Africa, several organizations representing groups of PVOs recently introduced legislation or prepared statements. Interaction (American Council for Voluntary International Action) represents 110 PVOs. In 1985, Interaction proposed legislation for an African Recovery and Development Act which would use AID funding to finance short-term recovery and rehabilitation and long-term development efforts as well as food aid increases. PVOs would be principal implementors of the initiatives. The legislation was not passed by Congress but may be reintroduced.

28. More recently a group of U.S.-based international development, environment and population NGOs issued a statement and action plan, "Making Common Cause." The three elements of the Action Plan are: educating the public about critical issues by working with media and other groups (development education), affecting public policy especially through a Foreign Assistance Working Group, and improving collaboration of field activities.

29. In summary, PVOs are reemphasizing their ties to the poorest of the poor, turning to development education, and joining forces with each other to combat African food problems. It is too early to judge the effects of their new African initiatives. But PVOs can afford to direct some efforts away from food aid and apply themselves to innovative assistance to small farmers. According to Hanrahan (1987) immediate hunger problems have subsided in all but a few African countries this year.

World Bank

30. The International Bank for Reconstruction and Development (IBRD) selected agriculture and economic growth as the focus of its 1986 World Development Report. That choice reflects the Bank's view that success in agriculture will significantly determine the course of national economies for decades to come.

31. Surprisingly, the Bank noted, it is the developing world which on the whole discriminates against its farmers who account for large shares of gross domestic product (GDP) and export earnings. Inappropriate macro-economic and exchange rate policies, and high industrial protection have accounted for this inequity. In contrast, the industrialized nations subsidize agricultural production even though their farmers account for small shares of GDP and employment. Removing these distortions has potential gains to the world economy.

32. The World Development Report identified national and international strategies and priorities in agriculture which have implications for LRA in Arica:

- ensure that the profitability of farming is not artificially depressed because of macroeconomic or sectoral policies;
- moderate the taxation of farm output;
- reduce governmental role in marketing agricultural outputs;
- eliminate or curtail input subsidy programs;
- encourage governments to provide essential services and facilities that private markets cannot, such as irrigation, research, extension, rural roads, and education;
- liberalize trade in agricultural and agro-industrial products;

  ("Trade is better than aid" clearly applies to agriculture. Gains to industrial and developing countries from free trade would amount to about $64 million annually. This is approximately double the level of official development assistance from Organization for Economic Cooperation and Development member countries according to the World Bank, 1986, p. 131.)
- during the forthcoming General Agreement on Tariffs and Trade (GATT) round, consider in the negotiations for the agricultural products the effects of domestic

agricultural policies upon the markets available to others.

33. Since 1980 the Bank has used structural and sectoral adjustment programs as instruments for economic reform. The broader structural adjustment loans (SALs), disburse funds in support of a wide range of policy reforms. The Bank monitors progress toward specific measures of reform as it releases funds. Broad economic restructuring requires several years to take effect. Therefore, SALs span five years or more and may involve up to five separate loans. Since 1980, 32 SALs in 18 countries for a total of $4.6 billion have been approved. Many SALs address agricultural issues through macroeconomic policy changes and through agricultural trade, pricing and institutional adjustments. Since 1979, there have also been 17 sector-specific adjustment loans for agriculture.

34. Structural adjustment loans (SALs) have probably contributed to financial stability and growth in developing countries. Although it is difficult to distinguish the singular impact of SALs, they are likely to be more effective in addressing economic policy reforms than are individual projects alone. The Bank has probably been too optimistic about: (1) the time required to implement reforms through SALs; and (2) the capacity of governments and institutions to deal with the complexities and conditions SALs impose. Further, technical assistance associated with SALs is better handled in free-standing projects than in the SAL packages, since different supervisory skills are required.

35. Over the past decade 25 to 30 percent of the Bank's lending has been for agriculture and rural development. The $33 billion lent by the bank since 1975 has helped finance total investments in agriculture of about $87 million. The principal focus has been irrigation, drainage and water control projects followed by area and rural development, and credit. The Bank's experience with agricultural lending has demonstrated economic rates of return for agriculture which are comparable to those of other sectors. *The most successful projects for raising agricultural productivity and the incomes of the poor have been agricultural credit, irrigation, research and extension and rural development*.

Peace Corps

36. The new Africa Food Systems Initiative (AFSI) is the Peace Corps' response to the crisis in African agriculture. By FY 1990, Peace Corps plans to collaborate with governments of up to 12 countries to combat declining food production and work towards self-sustaining food systems. AFSI is a long-term (10-year), multi-faceted approach, directed towards small farmers. Unlike previous Peace Corps programming, a three-stage process characterizes AFSI: (a) comprehensive food system assessments are conducted by host-country and expatriate professionals; (b) results are used to design appropriate programs; and (3) implementation involves upgraded, specialized technical training in agriculture for volunteers. Peace Corps also engages other organizations, such as PVOs and AID in AFSI programs.

37. In 1986, four pilot programs began in Mali, Niger, Lesotho and Zaire. Because of Zaire's recent decision not to allow new volunteers into the country, AFSI will not operate there in the pilot phase. Senegal, Guinea, Sierra Leone and the Central African Republic or Chad are 1987 target countries. African governments have been quite receptive to AFSI activities. However, since this is a new initiative the jury is still out on its effectiveness. As with PVOs however, success will depend on technical training of staff in agriculture. There is no question about the access of Peace Corps to the target LRA population.

Food and Agriculture Organization

38. FAO's Fifth World Food Survey (1985) reports only a 0.4 percent per person per year increase in dietary energy supplies (DES) for Africa, largely attributable to increased imports. This rate of increase will need to be doubled to significantly reduce malnutrition by the year 2010.

39. In 1986 the FAO put forward A Programme of Action for African Agriculture. Based on critical analysis of past successes and failures, FAO proposed:

1. Africa's croplands, rangelands and forests, now under severe stress from growing human and livestock populations must be protected and developed.
2. The four "I's" of agricultural development must be improved: incentives, inputs, institutions, and infrastructure. Since women farmers produce much of Africa's staple food, actions must be taken to reduce

the time women spend on fuel and water collection in order to increase time available to grow crops and tend livestock.

3. In at least 30 African countries, economic recovery is dependent on increases in agricultural production. Therefore, top priority must be given to agriculture. There is some evidence that this process is underway. At the OAU Summit in July 1985, African leaders decided to raise public investment in agriculture to 20-25 percent. Further, the OAU's _Africa's Priority Programme for Economic Recovery 1986-1990_, which FAO helped to prepare, is overwhelmingly centered on agricultural development.

4. The international donor community must back the efforts of African governments and farmers.

FAO's plan of action is largely dependent on the will and the resources of African governments. Section II of this paper describes some of the constraints facing this _Programme of Action_.

International Fund for Agricultural Development

40. IFAD is a Specialized Agency of the U.N. created in 1977 to increase food production and rural income in developing nations. IFAD is premised on five operating principles to achieve its aims in Africa:

- focus projects on people and their cultural identity
- provide grass-roots eduction

- support women producers
- promote local institutions
- encourage policy support

41. The three-tiered membership of IFAD is unusual. Of the total of 139 countries belonging in 1984, 20 were in Category I (developed countries), 12 in Category II (oil-exporting developing countries), and 107 in Category III (other developing countries). Categories I and II represent major donor countries and Category III consists primarily of recipient countries. All three categories share equitably in decision-making power in the governing bodies of the Fund. For the first time in the history of international financial cooperation, and perhaps as a reflection of the North-South dialogue, the North joined hands with the South to fight poverty and hunger.

IFAD's target group of small and landless farmers usually have holdings of 5 hectares or less. This underlines IFAD's pivotal role in finding solutions to low-resource agriculture in Africa.

42. The most recent data available indicated IFAD had financed 152 projects in 83 developing countries. IFAD's budget averages $300-350 million per year in contrast to the World Bank's $12 billion and AID's $1.9 billion per year. It must rely on cofinancing of projects with other donors. The small professional staff of only 80 persons means that other organizations must help conduct IFAD project appraisals, implementation and supervision.

In 1985, AID reviewed IFAD and visited 19 projects in 14 countries. The report concluded that IFAD's efforts to define, identify and reach the poor have generally been successful and that projects visited had benefitted small farmers or the landless. (USAID, 1985, p. vii).

With respect to IFAD-funded _integrated rural development projects_, (IRD) most showed good potential for meeting agency and project objectives. However, start-up delays were common and shortages of counterpart funds were frequent. Implementation of IFAD IRD projects was generally smooth but leaned on separate project management units which has been a donor error in Africa and hinders long-term institution-building and therefore sustainability. IFAD-funded _agricultural production_ projects had mixed results to date, with some having only longer term and less direct impacts on small farmers and the landless. IFAD's stated mandate to support women producers has had limited success. Although IFAD is not unique in this, more experimental work by the organization is needed. (Ibid, p. 33).

The AID report concluded that IFAD's small size and its focused and experimental approach have given it a leadership edge which it has used to analyze and develop a strategy to alleviate _rural poverty_. _It has yet to do this for the technical aspects smallholder agricultural development_. IFAD's comparative advantage lies with introducing quick-yielding food production technologies for small, low-income farmers, comprehensive packages of integrated services to remote or poor geographically well-defined areas, and large scale production of inexpensive foods with major potential impacts on production and on-farm employment.

African Development Bank

43. The African Development Bank (AFDB)[1] headquartered in Abidjan, was created in 1963 by 30 independent African states. Funding for 1985 was about $1 billion and membership now includes 50 African countries. In the early days, AFDB policy was aimed at industrial and infrastructural development, but AFDB now concentrates on agricultural projects. Results so far indicate that projects in the latter sector are harder to implement and require far longer periods to produce results. Officials note that *smaller countries* are better at implementing agricultural projects, Burundi and the Central African Republic being cases in point (*Euromoney*, 1985). Plans are underway to provide direct loans to private industry with government guarantees. Many of the poorer member countries have problems financing the necessary technical feasibility studies. Attempts by the AFDB to support the cooperative spirit of the 1980 OAU economic summit that produced the Lagos Plan of Action have been hampered by governments looking inward to their own pressing local problems.

African Development Foundation (ADF)

44. The ADF is a relatively new U.S. Government-sponsored organization which after an unsteady start began disbursing

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[1] AFDB is used by AID to avoid confusion with ADB, the Asian Development Bank.

project funding in September 1984. ADF gives grants to indigenous African organizations. These range from $7,000 to $250,000, with the average being of $60,000 over a three-year period. Recipients are African community groups who, if funded, prepare proposals and procure their own experts and supplies. Agricultural activities account for almost half of ADF projects and have included seed, home gardening, irrigation, and maize-drying projects. Five African regional liaison offices support the program with backstopping from five U.S.-based Foundation Representatives. Eventually Africans will be hired as country resource persons for each of 19 countries. ADF's FY 1987 budget was $6.5 million of which about $4 million was for grants for 90 projects. A limited fellowship program to strengthen African researchers is also underway. The capacity of indigenous community groups to effectively implement development projects remains a critical question. ADF is currently undergoing its first major evaluation which should produce answers to this and other key questions about ADF.

Other Key Donors

45. The Commission of the European Communities (EC) has a trade and aid program through which its member states assist 66 African/Caribbean countries, mostly former colonies. The EC assistance vehicle, known as the Lome' Convention, has a budget of approximately $7.4 billion for the present five-year period which began in 1986. Within the last several years, the Commission of the EC has showcased agricultural and rural development

demonstration projects in Kenya and Rwanda. Their new proposal process now requires recipient countries to define economic goals and to prepare five-year plans.

46. The Organisation for Economic Cooperation and Development (OECD) has a Development Assistance Committee (DAC) with Australia, Japan, Canada, U.S., New Zealand, the Commission of the European Communities and eleven individual European countries as members. OECD/DAC has no aid program but does review the amount and nature of members' contributions to bilateral and multilateral aid programs. They also consult on relevant aspects of development assistance policies. The OECD/DAC' traditional role in donor coordination assumes even larger importance in the African food crisis.

International Agricultural Research Centers (IARCs)

47. The Consultative Group on International Agricultural Research (CGIAR) is an association of countries, international and regional organizations, and private foundations dedicated to supporting a system of agricultural research centers and programs around the world. The purpose of this research is to improve the quantity and quality of Third World food production. The World Bank, FAO and the United Nations Development Programme cosponsor the effort. CGIAR has 51 members of which 34 donors contributed about $170 million to core programs in 1985. Thirteen International Agricultural Research Centers (IARCs) belong to the CGIAR and were in large part responsible for the Green Revolution for wheat, maize and rice. In Africa, as elsewhere, the IARCs

conduct basic research which national agricultural research centers (NARCs) adapt and disseminate. Section II of this paper identifies the research challenges these institutions confront.

A reoccurring criticism of IARCs is that their technology aids richer farmers. There is also a question of replicability in Africa of the Asian Green Revolution.

Conclusion

48. Most striking is the degree to which the crisis in African agriculture has galvanized the attention and set the agendas of donors worldwide. This is true for organizations with broader, multi-sectoral mandates, such as AID and the World Bank, but it also holds for PVOs and specialized agencies as well.

II. PROMISING ALTERNATIVE MODELS FOR DEVELOPMENT ASSISTANCE

49. This section of the paper extracts from the above discussion and synthesizes selected alternative-development assistance models. The researcher believes that increases in African food production require a mix of strategies at three levels: international, national, and project levels. The models are not so much distinct approaches, particularly at the international and national levels, but rather sets of conditions which must be in place if African small-holder agriculture is to succeed.

A. International Level

50. Six international strategies are described in this section: (1) altering the international economic environment; (2) increasing donor coordination; (3) maximizing regional cooperation; (4) increasing South-to-South assistance; (5)

educating the public about development issues; and (6) using extra-governmental fund-raising strategies to supplement traditional assistance programs.

1. Economic Environment

51. A turnaround in African agriculture depends on an international economic environment that does not disfavor African producers especially low-resource agriculturalists. In the U.S., the European Communities, and Japan, farmers are paid to reduce agricultural production. The main justification for agricultural protection is to improve farm family income, but better-off farmers usually benefit and higher food prices are borne disproportionately by poorer consumers. These programs have surprisingly little long-term effect on farmer's incomes in industrialized countries and cost more than $40 billion a year (World Bank, 1986, p. 110). Further, these political/economic policies have a negative impact on farming in developing countries by depressing prices for LDC products. This occurs because industrial countries import less and their subsidized exports undercut developing countries' farmers in their own markets.

52. In the short-run, industrial countries and some developing countries are likely to gain more from free trade, but the gains should spread rapidly to other countries if they undertake appropriate economic policy reforms. With trade liberalization, the World Bank (1986) notes that:

> While some developing countries may lose as a result of higher import bills for some commodities, the losses are likely to be more than offset by gains in exports

of other commodities -- especially if they and the industrial countries reform their domestic policies simultaneously (p. 151). (Emphasis author's.)

53. While full liberalization is unlikely, there is justification for moving now towards partial and gradual liberalization. One approach would be for each country to review how it could reduce protection of its most protected agricultural products. In the U.S. these might be sugar, cotton, wheat, rice, and peanuts. (The U.S. has already cut its milk support prices.) In the EC the products are milk, beef, sugar, and cereals. Alternative means of providing income support for affected farmers should be used to ease the transition.

54. Secondly, participants in the new round of GATT negotiations must be willing to negotiate certain features of their domestic programs, recognizing the effects these programs have on production, consumption, exports and imports, and international market prices.

55. The above actions would assist African producers as a whole and LRA in particular. But these measures are not politically appealing to favored groups and nations and may therefore be resisted.

2. Donor Coordination

56. At the global level there is a trend to increased coordination and cooperation among the bilateral and multilateral donors and the PVOs which implement development assistance programs. The OECD-DAC, now in its 25th year continues to promote cooperation among its members. The multiple economic, environmental and

social handicaps of Africa have led to new attempts by AID and the World Bank, among others, to coordinate assistance efforts. This is particularly crucial for leveraging LDC policy reforms. Further, the recent PVO statement, "Making Common Cause" calls for PVOs, universities and others engaged in development assistance to reestablish ties and seek common goals rather than compete for foreign assistance funds.

3. Regional Cooperation

57. Some experts have looked to regional cooperation to solve Africa's dilemmas and maximize resources. Although African governments have tried to follow the cooperative spirit called for in the Lagos Plan of Action their own crises often lead them inward. On the brighter side, the Southern Africa Development Coordination Conference (SADCC) for nine countries, held at Lusaka in April 1980 is making progress with studies on triangular grain trade, food aid and a regional grain reserve. (Eicher, 1986.)

4. South-to-South Assistance

58. There are also examples of South-to-South assistance strategies. The International Fund for Agricultural Development (IFAD) was cited earlier as an example of the North and the oil-producing southern nations joining to assist the less-developed South. Other South-to-South aid has occurred, e.g. germ-plasm exchanges between African countries. (Ruby, Personal communication, 1986).

59. A South-to-South Asian model may be adaptable for African "institution-building" programs. The USAID/University of Wisconsin project with the Graduate Agricultural University in Bogor, Indonesia enabled that university to assist a less-advanced Outer Island university to upgrade its faculty and curriculum.

60. AID's Latin America Bureau is looking to Brazil, the Dominican Republic and the Caribbean as possible technical assistance, training and research partners for African nations. Portuguese West African countries are particularly appropriate for Brazil. (Mamlouk, Personal communication, 1986). Finally, "third-country" rather than U.S. training is a form of South-to-South assistance which AID is using increasingly in Africa and elsewhere as developing nations enhance their own institutional capacities.

61. A variation of this theme is for AID to fund third governments such as Israel under the Berman Bill. Of the $20 million requested for Berman funding, $2 million was eventually used for this purpose. Such aid needs careful planning and management since it involves the bureaucracies of three countries. Further, the Berman Bill was politically problematic in the U.S. For example, the land grant universities viewed the legislation as competitive with their interests. In some developing countries, such aid would not be politically acceptable nor would it be technically appropriate in all cases since Israel's agricultural specialty is dryland agriculture. On the

other hand, for Israel there are advantages of employment and market opportunities resulting from introduction of Israeli technologies in new countries.

5. Development Education

62. Another emerging international strategy is "development education" which seeks to inform the public about development issues, global interdependence and the self-interest of industrialized nations in aiding the Third World. A number of OECD-DAC countries are involved in such efforts. In the U.S., the Biden-Pell Amendment supports development education activities of universities, PVOs and other groups.

63. In the face of growing domestic economic problems, industrialized countries will be tempted to reduce support for foreign aid. Development education keeps before the public the African food crisis and other development issues thus aiding LRA. One unique approach combined fund-raising for development purposes, development education, and market outlets for African handcrafted products. Under the "Ohio Kids CARE" program implemented by CARE and Global Exchange, Ohio school children sold Third World products and raised funds for CARE while learning about development issues in their schools. (Global Exchange, 1986.)

6. Extra-governmental Assistance

64. Non-traditional extra-governmental assistance strategies are also emerging. These sporadic humanitarian fund-raising sources,, e.g., "Live-Aid" and "Band-Aid" should be viewed as

supplementary to development assistance programs. They have no permanent institutional base, no planning horizon and little continuity. They do serve a development education function and probably engender some public support for immediate African food crises but they should not be seen as long-term solutions to LRA.

B. National Strategies

65. At the national level another set of strategies is required to support low-resource African agriculture. These include, but are not limited to:

- making agriculture a national priority,
- establishing appropriate agricultural policies and strengthening capacity for policy analysis,
- developing effective agricultural research for smallholders, and
- promoting a realistic appreciation of the comparative advantages and appropriate roles of the public versus private sectors in rural areas.

1. Agriculture as a Priority

66. African governments need to be more fully involved in solutions to low-resource agriculture. Although African leaders at the 1985 OAU Summit called for raising public investment in agriculture to 20-25 percent, many African nations are having difficulty shifting from earlier industrialization and infrastructural emphases. For example, the author was recently informed by AID officials in Zaire that less than five percent of the national budget was allocated to agriculture. (Brown,

Personal communication, 1986). Tanzania is said to spend about 30 percent of its national budget on agriculture. (Minde, Personal communication, 1986). At the high end of the continuum, Malawi is viewed by many as an anomalous but encouraging case of setting a high priority on agriculture.

67. The World Bank's and AID's structural/sectoral adjustment approaches are aiding African nations in shifting national priorities to agriculture; As noted earlier, FAO and the AFDB have also provided valuable assistance in this regard.

2. Policy Environment

68. The discrimination of many African governments against farmers was described in Section I. The World Bank and AID identified appropriate policy environments as one of the key factors for successful agricultural projects.

Criticism that policy reform did not aid the poor led AID to conduct a preliminary assessment of its policy reform programs in Africa. Studies in Somalia, Zambia, Zaire and Zimbabwe indicated that donor-assisted policy reforms led to significant increases in food production. Further, small farmers were major beneficiaries of policy changes and structural adjustment in Africa. The AID study concluded that farmers generally responded to freer markets and price signals, and made choices that maximized their welfare. (Haykin, 1987). The quickest way to lift African agriculture from its current stagnation was for AID and other donors to support reforms in producer incentive structures. Results can be seen within a year whereas credit and technology transfer programs, while essential also, have much longer gestation periods. (Ibid).

69. Since 1979 the World Bank has made 17 agricultural sector adjustment loans to leverage agricultural policy reforms. These ranged in size from $5 million for Malawi to $303 million for Brazil. Most sector adjustment loans focused on policies regarding prices paid and received by farmers, performance of parastatals, controls on financial markets, trade barriers and size and composition of public expenditures. A recent Overseas Development Council Report on the World Bank (1986) notes that structural adjustment is an indispensable strategy for improving developing country performance. The built-in monitoring and performance-based disbursements make this an attractive approach.

70. According to one official in AID's Africa Bureau, three key agricultural policy issues are: (1) consumption of imported versus domestically produced food crops; (2) fertilizer policy; and (3) intra-regional trade. (Winter, Personal communication, 1986). The World Bank identified moderated taxation of farm output, and curtailed input subsidy programs as other policy areas needing attention. (1986.) Finally, Africans need to develop their own policy capabilities along with supporting information systems. (Johnston et. al., 1987).

3. Agricultural Research

71. The technology to aid low-resource African agriculture may not be available as it was for the Asian Green Revolution. A host of specialists have pointed to the need for enhanced

research efforts targeted toward LRA in Africa. (Johnston et. al., 1987; Mellor, 1986, 1987; BIFAD, 1986; Eicher and Staatz, 1984.)

72. Mellor (1987) says attention should be focused on four key African crops -- maize, rice, sorghum, and cassava. Improvements in output, disease resistance, and adaptation to local soils, climate and labor conditions for these crops will dramatically increase African food resources.

73. BIFAD (1986) and Mellor argue for the development of sound agricultural research and education institutions. They are supported by Johnston (1987) who considers the development of national agricultural research systems to be one of eight priorities for Africa.

74. Specific types of research can aid low resource agriculturalists. Nobel laureate Ted Schultz contends:

> Our official foreign aid agencies and also our foundations have a poor record in their endeavors to improve the economic lot of women in low income countries. There has been no lack of talk and papers with stress on social reforms. Taking the long view, what is long over due is the establishment of organized research centers that would do for household production activities what agricultural research does for the production activities of farmers. There is even a lack of simple equipment to break and remove the hard husk of sorghum that would eliminate the backbreaking work of so many women throughout Central Africa. Inasmuch as much of the work in agriculture in many countries of Africa is done by women, a part of agricultural research should be oriented to this activity of women (1982, pp. 8-9).

75. Freeing women's time for more productive agricultural work is cost-effective and should be a high priority on the African research agenda.

76. A separate OTA paper (Poats et. al., 1986) assesses the status and potential of farming systems research and extension (FSR/E). FSR/E holds particular promise for low-resource African producers. It can be used to identify research priorities, develop appropriate technological alternatives and help overcome biases relating to class, gender, age, and ethnicity through its holistic approach to diagnosis, design, experimentation and dissemination of agricultural research. However, AID's early enthusiasm for FSRIE led to a tendency to ignore important commodity and on-station research. (Johnston, 1987, p. 267). Clearly a combination of research approaches is needed to enhance LRA.

4. Public Versus Private Sectors

77. African small-holder agriculture would be enhanced by shifts in roles and responsibilities among government, private sector, and communities/farmers. Each should operate from its comparative advantage. Appropriate roles for each of these principal actors are summarized below.

78. African governments should reduce their roles in marketing agricultural outputs, and should provide essential services and facilities which private markets cannot. These include irrigation, research, extension, education, and rural infra-structure. The latter is a top priority for increased African food production.

79. FAO (1986) urged local communities to resume responsibility for organization of small-scale irrigation, village fuelwood

lots and water supplies, and soil conservation. The Gaviotas Center in Columbia is an example of a PVO which developed low-cost water, methane, electric, solar, and wind energy technologies to assist poor villages in becoming self-sufficient and reduce their dependency on government for these basic services. (Rondinelli, Personal communication, 1986.)

80. AID has promoted an increased role for the private sector as a centerpiece of its current efforts. Private enterprise development in rural and urban areas, private sector extension and privatization of government parastatals, such as commodity marketing boards, are among AID initiatives. Other OTA papers review success in these areas as they relate to LRA. (Gibb and Hull, 1986).

81. An innovative partnership among U.S. corporations, PVOs and development assistance is being created by the Fund for Private Assistance in International Development (PAID). Because of deepening debt crises, many developing countries have applied controls to limit the exchange of their currencies for dollars or other hard currencies. Consequently, multinationals are holding large sums in local banks which they cannot repatriate. (The IMF estimates there are some $40 billion in blocked assets in 40 countries, with $8 billion being held by U.S. companies.) Beginning in Nigeria, PAID organized a system by which these "blocked assets" could be used to support social and economic activities of universities, research centers and U.S.-based PVOs. If successful, this approach will promote a new collaborative

mode and increase the funds available for development assistance. Total funds of at least $5 to $10 million/year worldwide will be available once the PAID fund is fully operational.

C. Project Level

82. Strategies do exist at the project level for effectively reaching low-resource agriculturalists in Africa. This section describes two of the more promising approaches: using P.L. 480 funds and expanding the involvement of intermediary organizations in AID projects. The section closes with a summary of five elements for project-level success with low-resource agriculturalists.

1. Creative Uses of P.L. 480.

83. The National Cooperative Business Association (NCBA), formerly CLUSA, has used P.L. 480 Title II-donated vegetable oils for twofold development purposes: (1) to generate local currency, and (2) to establish a market while capacity for oil seed and nut production is being developed by local farmers. Over a recent five-year period, 160,000 tons ($60 million) of the donated oil was sold locally with proceeds going to the National Dairy Development Board of India. As a result, several thousand cooperatives were established which reached hundreds of thousands of farmers and increased incomes threefold. In this "Win-Win" situation, the locally expanded market for oils provided an outlet for the new farmer-producers. The program also potentially increases U.S. oil exports to India (25,000 tons next year if a price agreement is reached). What started as aid, could

become profitable U.S. trade. This South-to-South assistance may expand since plans are underway for the Indians to assist Sri Lanka with a similar program. (Sheehan, Personal communication, 1986).

84. In Indonesia, U.S. Title II-donated food was sold locally to help fund a multi-sectoral cooperative working in rice production, dairies, furniture-making, tuna and other fishing, and chicken raising. The Government was pleased with the results and matched funds on a six to one basis. (Sheehan, ibid.).

85. CARE is now undertaking a pilot African program using Title II sales to establish a community maize storage system in Kenya. This will result in stabilizing supplies and prices, and providing a food security system. Funds generated through the sale of Title II food will be used to purchase maize, which will be deposited in a local-level storage facility. Each family will have a "stake" and can bank its surplus. Additional spin-off benefits will be provision of management training to locals on warehouse operations and savings/credit scheme management. (Sheehan, ibid.).

2. Enhanced Involvement of Non-Governmental (NGOs) and Intermediary Organizations (IMOs) in Project Implementation

86. The NGO and IMO organizations often have established indigenous leadership, know the complexities of the country and work in remote areas. AID is now using indigenous and U.S.-based PVOs to conduct effective African agricultural activities. The 1986 Interaction report, Diversity in Development contains an

impressive compilation of such efforts. ADF views African NGOs as their implementing organizations. Other bi-lateral and multilateral donors are also using indigenous NGOs to involve Africans in their own development process.

87. The World Bank is experimenting with cost-recovery agricultural extension in Zaire and notes that growth of non-governmental intermediary organizations there (primarily religious missions) stems from pressures from the farmers themselves for technical assistance and credit. The Bank is also using local religious IMOs to interview farmers and evaluate its agricultural programs in Zaire. (Salmen, Personal communication, 1986). AID is using similar intermediary organizations for a major agricultural food and marketing project in Zaire's Bandundu Region.

88. IMOs have shortcomings which can impede their ability to assist African small-holders. Technical upgrading and management training for IMO staff are essential if these organizations are to operate effective agricultural programs. Further, IMOs created for project purposes may have more difficulties than existing PVOs in becoming institutionalized.

3. Summary: Five Elements for Project-Level Success

89. This review and synthesis led the author to conclude there are at least five elements which characterize successful development projects in African small-holder agriculture:

90. a. Simplicity. Sophisticated, integrated rural development projects have been confounded not so much by unrealistic targets

but because multiple ministries and other bodies became involved. Past failures in African IRD are attributable to complex and expensive designs and ones which strained host country management capacity. Projects were strangled in bureaucratic complexities and red tape. Schemes that worked rested in the hands of a single local executing agency which had some permanence of staff, thus providing quality management.

91. A new breed of integrated rural development (IRD) schemes is emerging. Fresh approaches include: enlisting private sector land development companies operating in frontierlands as executing agencies; supporting financially and with technical assistance NGOs operating in rural development, and pursuing institutionalization of project development activities to enhance sustainability. (World Bank Staff Working Paper 716, 1985).

92. b. Stability. Political upheavals have disrupted long-term planning and projects in agriculture. In the past 25 years, more than three-quarters of African countries have experienced one or more coups. Sudden shifts in government priorities detract from the long-range planning which underpins agricultural development.

93. It seems almost impossible to sustain long-term projects, let alone replicate them elsewhere. Perhaps development planners need to conceptualize projects for low-resource African agriculture in stand-alone segments or phases.

94. c. Flexibility. For the past decade AID has experimented with alternative project design approaches which maximize flexibility in implementation. Flexible designs include "pro-

cess" and "rolling," as opposed to traditional "blueprint" project design. The former allow for adaptation as changes occur in the project environment and also enable the team to build on experiences gained during implementation. This encourages increased host country participation and use of local institutions, as well as closer monitoring of the implementation process. For these reasons, rolling or process designs are advantageous to low-resource African agriculturalists and should be used by AID. These design approaches will be of particular benefit to women farmers. Comprehensive evaluations of AID's Women in Development (WID) programs (Forthcoming) conclude that careful upfront design and good baseline data do not guarantee project success where women are the target population. Projects must be adaptable during implementation to reflect the realities of women farmers.

95. d. Local Involvement and Reaching the Poorest Farmers. FAO and IFAD stress these concepts as fundamental principles. AID's "poorest of the poor" approach of the 1970's was predicated on the same concepts. Participatory approaches are also advocated by Korten and Klauss (1984) and others (Bryant 1982, 1986).

96. e. Management Capacity. In the past, local management capacity has often been strained by well-intended development assistance. Newer team approaches to development management are being advocated by the AID-funded University of Maryland International Development Management Center.

III. CONCLUSIONS

97. Low-resource African agriculturalists are a major challenge to the development assistance community. These farmers, often women, are handicapped by multiple economic, social and environmental constraints. Just as their problems are manifold, so are the possible solutions. This paper pointed to the need for a mix of strategies at the international, national, and project level. At the international level six strategies were proposed: altering the international economic environment; increasing donor coordination; maximizing regional cooperation; increasing South-to-South assistance; educating the public about development issues; and using extra-governmental fund-raising opportunities to supplement traditional assistance programs. Four national-level models were advocated. These included, but were not limited to: making agriculture a national priority; establishing appropriate agricultural policies and strengthening capacity for policy analysis; developing effective agricultural research for small-holders; and promoting a realistic allocation of roles for the public and private sectors in the rural areas based on the comparative advantages of each. Alternative approaches at the project level included creative use of PL 480 funds and enhanced involvement of non-governmental and intermediary organizations in project implementation. Five elements for project-level success were distilled from this review: simplicity, stability, flexibility, local participation, and management capacity.

98. Few entirely new strategies exist. Many approaches to low-resource agriculture are not flashy and gains will be marginal. But the attention of all major donors is now focused on Africa. It remains to be seen whether international and national resources can be aligned to bring these strategies to fruition.

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FINAL DRAFT

LOW-RESOURCE AGRICULTURE IN AFRICA

U.S. DOMESTIC POLICY DILEMMAS AFFECTING DEVELOPMENT ASSISTANCE

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Preface

This paper is one of many in a series examining low-resource agriculture in developing countries with special implications for Africa. This paper is unique in this series in that it was envisioned as an attempt to examine U.S. domestic policy concerns related to the relationship between U.S. development assistance to developing-country agriculture and the export market demand for U.S. agricultural exports. While much can be said about this very complex topic within the global context, we find that the elements of the argument which lead to the dilemma are not really applicable to the majority of Sahelian and sub-Saharan African countries receiving U.S. development assistance. These countries face an unusual combination of constraints to development which set them apart from the other regions of the developing world. This fact leads African development specialists to doubt the ability of the majority of these countries to reach food self-sufficiency, let alone become formidable opponents of the U.S. in the international agricultural commodity trade markets. Further, when one realizes that the pattern of most agricultural production in these African countries is extremely low-resource and small-scale, it becomes even harder to imagine how these countries enter into a discussion of a dilemma for U.S. legislators. However, it is not sufficient to simply say that Africa is not the target of U.S. agricultural export support lobbies without presenting the discussion within the global context. Therefore, the majority of this paper does not specifically focus on low-resource agriculture in Africa.

I. OVERVIEW

1. To appreciate the complexity of the issues surrounding current U.S. policy debates relating to continuing U.S. support for foreign agricultural development, it is necessary to briefly review the political, social and economic underpinnings of U.S. foreign development assistance. Having done this, U.S. policy in this area will be stated and put within the existing framework for its implementation. With theory, policy and structural framework in place, it will then be possible to examine differences between theory and reality, with the hope of illuminating the reasons that theory sometimes fails to predict reality.

A. Conceptual Underpinnings of U.S. Foreign Economic Development Assistance in Agriculture

2. Since World War II, the level of awareness of people around the world regarding the different living conditions others face has increased. Dramatic progress in the development and diffusion of communications and transportation technologies has enabled these differences to be brought into the minds of people in rural Iowa and Ethiopia alike.

3. In 1985 the World Bank reported that over 30 percent of the world's nations had per capita (GDP) incomes of less than three percent of that in industrial market economies. Specifically, the average per capita GDP in these less developed countries of primarily Asia and Africa was $260 per year, compared with $10,397 per year in the 18 industrialized countries (World Bank, 1985). It is important to note that 56 percent of the world's

population live in these low-income countries, compared to 19 percent in the industrial market economies. Such a significant differential in the level of per capita income is important to these industrial market economies, such as the United States, for many reasons.

4. The importance of assisting low-income countries to develop economically lies squarely in the realm of self-interest. There should be no doubt that it is important for us, as citizens of the United States, to view ourselves and be seen by others as generous in the humanitarian pursuit of alleviating world hunger and misery. However, while altruism springs to mind most often as the primary reason for the United States to assist in such programs of international economic development of low-income countries, such selfless concern is rarely the basis of congressional decisions to set policy, authorize programs or appropriate money in these areas. Political concerns ranging from national security to ideological conquest to expansion of effective-demand markets for U.S. products form the basis of U.S. government foreign policy relating to economic development assistance.

5. In the realm of national security, the argument in favor of assisting low-income populations to improve their standard of living was simply put by Samuelson when he noted that "history teaches us that men do not always starve quietly" (Samuelson, 1961). Given the enormous number of people living in extreme human deprivation in all corners of the world, it does not take

much effort to imagine the nature of such a threat to the national security of any industrialized country.

6. Another political consideration that is usually left unspoken in foreign policy debates, but is nonetheless a part of the decision equation regarding foreign economic development assistance, is the gains to be made on the ideological front. That is, since the Russian and Chinese revolutions the industrial market economies have decidedly felt threatened by what has emerged as an alternative sociopolitical framework for national economic development. A struggle has resulted between and among these various political forces which is aimed at ideological conquest and expansion. It is no secret of U.S. foreign policy that we have such a desire to influence the sociopolitical development of nations still in the process of developing national identity, and one effective method takes the form of economic development assistance.

7. Finally, the process of national economic development has been thoroughly modeled by macroeconomists and studied by economic historians over the past century. In the development literature, the most influential theory states, generally, that a predominantly agrarian-based economy must develop beyond the subsistence level of production, thus creating a surplus of domestic production which can be traded for higher-value agricultural goods and non-agricultural goods in order to develop other sectors of the economy (e.g., industrial, service). It is anticipated that the production of a marketable surplus will

increase the disposable income of the farm family, thus giving them the means to increase their consumption. This increased consumption will take the form of increased intake of food until the minimum caloric requirements of the family are met. At this point, consumer preference will shift as income allows to higher-value foods, such as meat, milk and eggs. Only then, after primary dietary demands are met, will the farm family begin to consume non-agricultural goods and services. This pattern of consumption has been observed in every case where there has been freedom of choice.

8. Where this theory of consumption and consumer preference enters into the realm of U.S. economic development assistance is during the initial phase of helping a nation to develop its capacity to produce agricultural products in excess of domestic demand. At this point, the foreign country can theoretically sell its surplus production on the international market, thereby generating the foreign currency required to import food products not grown in sufficient quantities in the country, inputs required for creating the domestic capacity to produce animals, inputs required to increase domestic productivity in both crop and animal production enterprises, and non-agricultural products. Such a scenario obviously benefits the developing country and the developed country as importers and exporters of agricultural and non-agricultural products.

9. A key assumption underlies these economic theories that apply to the development of domestic agricultural sectors of low-

income countries and to the expansion of effective-demand markets for U.S. agricultural and non-agricultural exports. This assumption is that the products for which any nation chooses to develop surplus production capacity for the purposes of export trade will be those in which that country has a relative comparative advantage. Along the lines of comparative advantage, nations will harmoniously produce and trade the goods that they are most efficient at producing relative to the factor endowments and factor prices of production of that same set of goods in some other country.

10. In sum, for decades the U.S. government has set policy and appropriated funds to support economic development assistance, especially relating to the agriculture sector of low-income countries, in recognition of the importance of such assistance to our national security, our position as an ideological leader among nations, and our requirements for effective-demand markets for our surplus agricultural production.

B. U.S. Foreign Agricultural Trade and Economic Development Assistance Policy and its Implementation

11. The policy of the United States relating to official bilateral and multilateral economic development assistance in agriculture has been established by the U.S. Congress in two key pieces of legislation. The Agricultural Trade Development and Assistance Act of 1954 (Public Law 480) was enacted to increase the consumption of U.S. agricultural commodities in foreign countries and to improve the foreign relations of the United

States. The Foreign Assistance Act of 1961 was enacted to promote the foreign policy, security and general welfare of the United States by assisting other countries in their efforts toward economic development and internal and external security. As amended, these two pieces of legislation provide the conceptual policy framework for all U.S. policy relating to agricultural development assistance abroad.

12. Briefly stated, Section 2 of Public Law 480 declares the policy of the United States to:

> . . . expand international trade; to develop and expand export markets for U.S. agricultural commodities; to use the abundant agricultural productivity of the U.S. to combat hunger and malnutrition and to encourage economic development in the developing countries, with particular emphasis on assistance to those countries that are determined to improve their own agricultural production; and to promote in other ways the foreign policy of the United States.

13. The Foreign Assistance Act of 1961 is an elaborate declaration of foreign policy, policy objectives and purposes. Section 101 provides a statement of general policy in regard to development assistance:

> The Congress finds that fundamental political, economic and technological changes have resulted in the interdependence of nations. The Congress declares that the individual liberties, economic prosperity and security of the people of the United States are best sustained and enhanced in a community of nations which respect individual civil and economic rights and freedoms and which work together to use wisely the world's limited resources in an open and equitable international economic system. Furthermore, the Congress reaffirms the traditional humanitarian ideals of the American people and renews its commitment to assist people in developing countries to eliminate hunger, poverty, illness and ignorance. . . . United States

development cooperation policy should emphasize four principal goals:

(1) the alleviation of the worst physical manifestations of poverty among the world's poor majority;

(2) the promotion of conditions enabling developing countries to achieve self-sustaining economic growth with equitable distribution of benefits;

(3) the encouragement of development process in which individual civil and economic rights are respected and enhanced; and

(4) the integration of the developing countries into an open and equitable international economic system.

14. Section 102 reiterates the broadly stated objectives of U.S. foreign assistance policy, as stated in Section 101, and more specifically sets criteria by which decisions regarding authorizations and appropriations will be guided. In relation to agriculture, Section 102 provides that U.S. development assistance will be used to increase agricultural productivity per unit of land through small-farm, labor-intensive agriculture, and will promote greater equality of income distribution, particularly for small farmers, who characteristically dominate the agricultural sector of low-income countries.

15. Section 103 provides the specific framework for authorization and appropriation in the areas of agriculture, rural development and nutrition:

(A) to alleviate starvation, hunger and malnutrition;

(B) to expand significantly the provision of basic services to rural poor people to enhance their capacity for self-help; and

(C) to help create productive farm and off-farm employment in rural areas to provide a more viable economic base and enhance opportunities for improved incomes, living standards, and contributions by rural people to the economic and social development of their countries.

16. The remainder of sections 103 and 103A specify functional areas and priorities for agricultural research which satisfy the goals, purposes and objectives of U.S. development assistance in agriculture for congressional authorization and appropriation. Together, sections 101, 102 and 103-103A set the structural framework for policy implementation.

17. The Secretary of State, working through the Agency for International Development (AID), has implementation responsibility for the Foreign Assistance Act of 1961, as amended, and Titles II and III of Public Law 480, as amended. Essentially, AID has authority for all economic development assistance. The Secretary of Agriculture has authority for all Title I sales of U.S. agricultural commodities and Title IV activities in support of Titles I, II and III and Section 103 of the Foreign Assistance Act.

18. For the most part, the Foreign Assistance Act and Public Law 480 are mutually reinforcing development assistance policies which enable financial, technical and commodity assistance to support the efforts of free nations to achieve domestic food security and to become active partners in the international economic system.

C. Differences Between Theory and Reality Which Contribute to the Emergence of a Policy Dilemma

19. For the purposes of this paper, those motivations for U.S. development assistance in agriculture which involve altruism,

national security and ideology, will be put aside in order to focus on the economic pressures and subsequent political motivations that are most directly involved in the emergence of a U.S. domestic policy dilemma regarding continued agricultural development assistance.

20. The majority of people living in low-income countries (more so in Africa than elsewhere) are concentrated in rural areas and engaged in small-scale, mostly subsistence-level, agricultural production. Little, if any, of this production is marketed. Thus, in an attempt to meet the farm family's additional consumption needs, some family members are engaged in off-farm wage employment where such opportunities exist. Agricultural production takes place in a variety of mainly untenured circumstances, with minimal inputs, extremely rudimentary tools and equipment, arduous labor and maximum risks in terms of yield. Eating what they produce and working off-farm to supplement their meager diets and obtain other minimum subsistence requirements does not afford the majority of these populations the opportunity to save, invest in the farm, and increase their incomes or standard of living over the course of a lifetime. They simply work to stay alive, with this cycle repeating itself generation after generation.

21. Under this situation there is little surplus production available to meet the consumption requirements of a rapidly growing urban population or to trade on international markets in order to import critical food and non-food staples or the capital

goods required to increase the productive capacity of either the agricultural or industrial sectors of the economy. Such low-income countries are, among other things, not an asset to the world economy. With stable or declining domestic production and increasing populations, these countries inevitably become international welfare cases.

22. This situation, then, provides the target of opportunity for economic development assistance. The United States not only wants these lower-income countries to develop in order to provide cash markets for U.S. exports, but to develop their economic sectors along the lines that display those differences in comparative advantage which have proven to be the only basis for fruitful international exchange. Specifically, rational self-interest makes the United States want other nations to develop so that we can import from them the goods that we can only produce less economically at home or not at all because of limitations due to climate or resource endowment. It is essential to note that only along the lines of comparative advantage is international trade truly advantageous.

23. The foregoing argument for assisting low-income countries to become export producers of goods that the United States needs and to become cash customers of goods that we produce and they need seems perfectly logical. Hence, U.S. policy is set deep within this theoretical base. The legislation recognizes the potential mutual benefit of such development. Without this type of economic cooperation and development, low-income countries may

provide a short-term repository of our surplus agricultural production, under concessionary agreements and disaster relief transfers, but such a relationship is not beneficial to either party in the longer term.

24. While the economic theory provides an apparently logical and therefore sound conceptual framework from which the United States could approach agricultural development assistance to low-income countries, several factors that affect the outcome of such development assistance regarding mutual benefit should be factored into decision-making. As Liu has pointed out:

> the extent to which the element of economics is allowed to play a role in any country's economic development depends entirely on the degree of dominance by the element of politics. (Liu, 1979)

This point is especially pertinent to understanding the divergence between theory and economic reality and subsequent policy formulation for the agriculture sector of most countries.

25. First, development economists have clung for decades to the theory that as per capita incomes rise, demand and consumption of more and higher-value food will increase relatively faster in low-income countries. Nobel economist T. W. Schultz simply accepts without question that income elasticities of demand for food are "firmly established facts" (Schultz, 1964). He cites research estimating the relative income elasticities of demand for food among regions which shows that, for example, using 1960 data, the figure for Asia and the Far East (excluding Japan) was 0.9, while in North America it was 0.16. This means that in 1960

Asians spent 90 cents of each additional dollar of income on food, whereas North Americans spent only 16 cents.

26. While income elasticities of demand for food have generally held true, such demand may not be fully realizable where governments intervene on the supply side. That is, while consumer demand may be potentially effective in calling forth imports of more and higher-value foods, governments may intervene to prevent such imports in order to satisfy other national objectives. According to Paarlberg, recent decisions of the government of the People's Republic of China serve as a case in point. In China, a remarkable 50 percent farm production increase since 1978 has led to dramatic increases in both rural and urban per capita income. However:

> . . . instead of using rapid internal farm production gains and the associated income gains as an opportunity to launch an ambitious trade-dependent drive to upgrade diets, the cautious Chinese bureaucracy has used these internal farm production gains as an opportunity to balance its recently endangered foreign trade account. (Paarlberg, 1986)

Therefore, China has reduced its farm imports, specifically U.S. feed grains, and has begun exporting corn in direct competition with U.S. market sales. Thus, it seems important to remember that in countries where freedom of choice of the individual producer/consumer does not directly translate into ability to demand increased food imports, there may be reason to question the ability of this economic theory to predict.

27. Second, another key theory of U.S. agricultural development assistance is that as nations develop they will choose to produce

goods in which they have a comparative economic advantage relative to other nations for exchange on the international market. The essential assumption underlying the validity of this economic theory is that both domestic production decisions and international trade take place in a free marketplace with unfettered supply and demand setting both factor and product prices. Unfortunately, this could not be further from the truth. Governments around the world have, for a variety of reasons, been actively involved in manipulating (or trying to manipulate) the internal domestic prices that farmers pay for their production inputs and the prices paid to farmers through floor and ceiling prices, production quotas and targets for a wide range of agricultural commodities. Beyond the farm gate, governments continue to interfere in what would otherwise be market-determined trade using numerous instruments, such as import and export licenses and taxes, creation of public storage infrastructure and subsidized distribution programs, and much more.

28. The reason governments get involved in agriculture at such a detailed level is primarily either to placate one or another powerful domestic interest group, or to "tax" agriculture in order to provide the resources necessary to spur growth in another domestic economic sector. The result of this type of public-sector involvement in the workings of the private sector is an enormous misallocation of resources. It eventually causes production that is not wanted or causes wants to go unmet because production cannot occur. Another result of such government

interference in the marketplace is that countries do not develop their export capacity along the lines of comparative advantage because, without the existence of relative factor prices that truly reflect resource availability and/or scarcity in domestic production, nobody knows where the true comparative advantage is anymore.

29. Even in a hypothesized world where nations produce agricultural commodities along the lines of comparative advantage, over time many factors (e.g., technological advances, shifts in consumer preference, degradation of the natural resource base and urbanization/industrialization) will cause changes in the relative prices of the factors of production. As this occurs, there will be shifts in comparative advantage among nations. The hypothetical true response of nations to such shifts would be some form of domestic structural readjustment. In the real world, however, structural readjustment in the agriculture sectors of many nations has been an extremely sore point because of human values and emotional responses associated with agricultural production and rural social organization, not because of economics or finance. Instead of structural readjustment, which would benefit all in the long run, the response has been an increased government role in protecting such inefficient production.

30. There are also a number of cases where the basic economic theories underlying U.S. agricultural development assistance have been misapplied, resulting in faulty analysis and misguided

expectations. Such misapplication of theory occurs in the case of developing countries that have catered, in modern times, to an urban-based population and development of export-oriented, cash-crop agriculture to generate the foreign exchange required to meet the urban population's current consumption needs and develop the economy's industrial and service sectors. In these countries, the rural populations are relatively small in size compared to the urban populations, poorly endowed, working marginal lands for primarily subsistence purposes, and typically of a minority race in relation to the majority urban populations and, as such, are politically disenfranchised. This is especially true for the majority of Latin American countries in which U.S. economic development assistance programs have been in place over the past 15 years. However, regardless of these facts, a large part of U.S. development assistance to these countries has been directed toward increasing production and productivity in marginal farming. In these cases, U.S. economic development assistance might be more effective in stimulating the broad-based income growth needed for economic development with resultant mutual benefit if it were not geared so heavily toward traditional agricultural activities of a minority of the population.

31. Within this area of misguided expectations regarding appropriate targets of opportunity for stimulating broad-based per capita production and incomes as well as foreign exchange earnings, it also should be pointed out that some poor countries

have become better commercial trading partners of the United States strictly as a result of income and foreign exchange earned from exports of petroleum, minerals or industrial products (Paarlberg, 1986). Both Mexico and Nigeria serve as cases in point.

32. Finally, one of the most important factors in the ability of developing countries to become active partners in the international economic system is their ability to earn foreign exchange and spend it for imported food and non-food goods. Relatively recent events have wreaked havoc with the international monetary system and have severely constrained both the ability of these developing countries to find export markets for their increased domestic production and the ability to allocate what foreign exchange they do have to agricultural imports.

33. Annual GNP growth among the developing countries had averaged a strong six percent during the 1970s, with farm imports nearly quadrupling in this same period. Additionally, the global lending environment was very active due to the abundance of petrodollars and a loose U.S. monetary policy resulting, at times, in negative real interest rates. The majority of developing countries were borrowing heavily during this period to support increased current consumption. Unfortunately, when the cost of OPEC oil skyrocketed in 1979 and the United States suddenly changed its monetary policy in an attempt to curb inflation, the developing countries were hit very hard by high

prices for commodity imports and money. As a result, national debt burdens became overwhelming during the early 1980s. Also, in response to the international macroeconomic crisis, the developed market economies quickly implemented protectionist trade policies, which effectively cut market access of the developing countries for their exports. Thus, facing a severely reduced capability to earn foreign exchange through free trade on the international market and being forced to spend available foreign exchange servicing enormous foreign debts, the ability of these countries to import U.S. farm products was seriously constrained. Even so, throughout the period 1970 through 1984, we find developing countries have consistently been good customers of U.S. agricultural exports as Figure 2 on page 30 of this report shows.

34. In conclusion, while the theoretical basis for mutual advantage from U.S. economic development assistance seems well rooted in logic and appeals to common sense, several macroeconomic factors intervene to have a negative impact on the ability of theory to predict reality. U.S. development assistance to low-income developing countries may not result in the type of economic development that was anticipated, and may not result in mutual benefit. A fresh examination of U.S. assistance seems justified where governments intervene to distort the ability of free-market forces to determine what and how much

of any commodity is produced and/or exported in order to prevent consumer demand from being realized, protect domestic producers, avoid structural adjustment, placate urban consumers, and generate foreign exchange for non-agricultural trade purposes.

II. U.S. DOMESTIC POLICY DILEMMAS

35. In the overview section it has been argued that U.S. foreign economic development assistance policy has been conceptualized and articulated in the legislation based on several economic theories which demonstrate that in a world of free markets low-income countries will increase their demand for imported food and feed grains, which form the bulk of U.S. agricultural exports, as a result of broadly based production and income gains. Further, in this world of free markets, low-income countries will develop their domestic production of goods for the export market along the lines of their competitive advantage in production relative to other nations. These goods will then be exported in order to generate the foreign exchange required to purchase the food and feed grain imports required to satisfy expanding effective domestic demand.

36. It follows then, that it is in the best interest of the United States to assist these low-income countries to increase their domestic production in such a way that broad-based income growth is realized and provides the basis for trade benefits to accrue to both the importing and exporting countries. It was then shown that the primary assumption enabling the economic theory to predict reality is fallacious. This is not a world of free markets. Therefore, the response of nations to increased domestic production and income growth may not result in development of an export trade along the lines of comparative

advantage and may not result in increased imports of U.S. farm products. Conclusions were, then, that:

- Depending on the existing economic structure of low-income countries, if per capita GDP income gain is the purpose of U.S. development assistance, then traditional agriculture may not be the appropriate target of opportunity.
- In cases where the majority of the population is engaged in traditional agriculture, U.S. development assistance to this sector may result in broadly based income growth, which then may not always directly translate into effective demand for imported food and other agricultural commodities.
- Internal sociopolitical and intersectoral economic considerations, in combination with larger global macroeconomic conditions, are the primary forces in the foreign trade decision equation of developing-country governments.

37. These conclusions suggest that there can be no reasonable basis for a "blanket" approach to U.S. agricultural development assistance to developing countries. That is, it would seem more reasonable to require a careful macroeconomic analysis of the strategic development plans, foreign debt structure and budgetary requirements of each developing country within the larger global macroeconomic environment before mutual benefit resulting from development assistance can be determined. To do otherwise may be unwise in that the United States may be providing the basis for developing-country benefit at the expense and to the detriment of the United States.

38. This provides the basis for a true U.S. policy dilemma. Where the implementation of the Foreign Assistance Act results in foreign economic development which is at odds with the objectives of the U.S. Agricultural Trade Development and Assistance Act, an

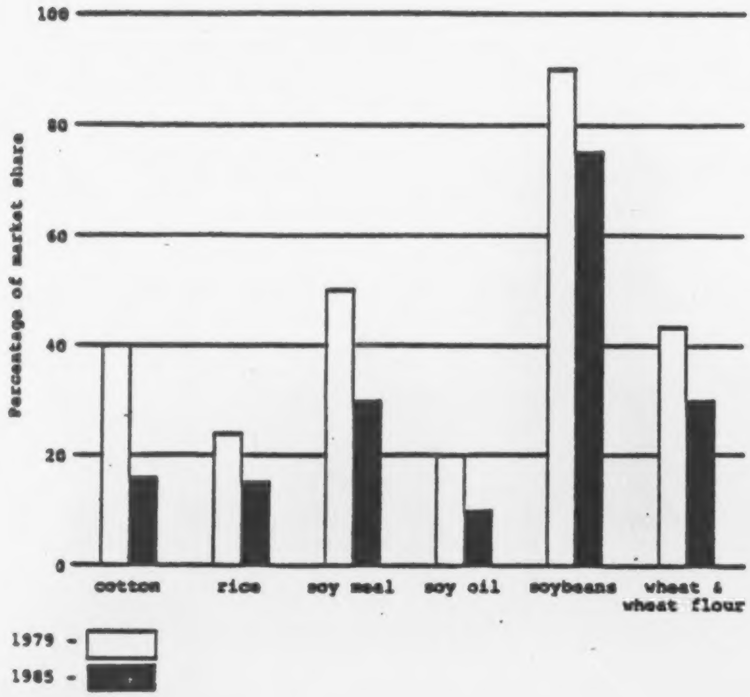
issue arises as to whether such development is in the best interest of the United States.

A. Proponents and Components of Support to U.S. Farmers

39. Over the decade of the 1980s, U.S. farm trade has suffered an overall decline, with some commodities being hit harder than others in the loss of effective-demand overseas markets to foreign competition.

Figure 1

Changes in the U.S. Market Share of Major Agricultural Exports from 1979 to 1985



Source: U.S. Senate Republican Conference, 1985.

40. Many U.S. farm support and commodity interest groups have pointed to several developing countries which the U.S. actively supports or has generously supported with bilateral agricultural development assistance and through participation in multilateral lending organizations (e.g., World Bank, Asian Development Bank, etc.) and core support to International Agricultural Research Centers (IARCS), as those who now take income away from U.S. farmers and the U.S. Treasury. In addition to questions regarding the prudence of long-term agricultural development assistance which has seemingly caused the rise of a new class of competition for U.S. farmers on international and domestic markets, these groups also question current lending to these same countries that are now taking part of our market to help them become even more efficient producers and more effective competitors in the near future.

41. The major issue centers around the extension of low-interest or concessional loans to developing countries to finance an increase in production of commodities already in surplus on world markets. Under these circumstances, increased developing-country production for commodities which, because of the surplus, face low international prices and barely break-even prices on domestic markets will drive prices even lower. This supply-determined price situation is not beneficial for the developing country because domestic prices paid to farmers will have to be subsidized in order to continue to encourage production for export. Further, it is not beneficial to the United States

because such lowering of price translates into more Commodity Credit Corporation purchases, lower farm receipts and larger farm support payments.

42. Proponents of this argument claim that any foreign agricultural development assistance program with this objective simply takes U.S. taxpayer dollars out of the U.S. Treasury in order to increase the domestic farm price and consumer subsidy burdens of both the developing country and the United States--this on top of a $200 billion annual budget deficit in the United States alone. They argue that this does not make sense and is unfair to both U.S. farmers and poor-country farmers in both the short and long term.

43. Another aspect of agricultural development assistance that particularly galls U.S. farm interest groups is the fact that U.S. tax dollars are being loaned to developing countries at very low interest rates and on especially attractive terms relative to the financial environment in which the U.S. farmer must operate. Beyond that fact of disparity, these loans are being made to enable developing-country governments to make macroeconomic policy reforms that encourage even further increases in production for export of commodities for which the United States has already lost significant market shares to these same countries over the decade.

44. U.S. farm interest groups recognize the importance of assisting these low- and medium-income developing countries to both achieve the broad-based per capita income growth necessary

to translate pent-up demand into effective demand for U.S. agricultural exports, produce commodities for export in order to generate the foreign exchange necessary to pay for U.S. agricultural exports, and service large debts to the United States. However, it seems that they are only willing to see this type of development occur as long as the export commodity mix produced by these developing nations is not that which U.S. farmers produce for export.

45. U.S. farmers' interests in the issues relating to the type and kind of continued agricultural development assistance to developing countries are represented by two very influential political agents. The U.S. commodity and related agro-industries interest groups* are political lobby groups supported solely by constituent donations and solely for arguing their best constituency's interest on every issue that may come to affect market sales. U.S. representatives and senators from farm states are elected to the U.S. Legislature to represent the interests of their farm constituency, and their continuation in this role depends on how well they do this.

46. In 1985 both U.S. agricultural interest groups and legislators from farm states across the country became actively involved in a campaign to inform the general population and the

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*These include the American Soybean Association, Farm & Industrial Equipment Institute, Grain Sorghum Producers Association, Millers' National Federation, National Association of Wheat Growers, National Grange, National Soybean Processors Association, National Turkey Federation, Rice Millers Association, and the United Fresh Fruit & Vegetable Association, among others.

political leadership of Congress as to the nature and extent of perceived injury and potential injury to U.S. farmers and to the U.S. taxpayer in general resulting from certain multilateral development bank lending practices and policies. This campaign, spearheaded by U.S. legislators from Colorado, Oklahoma, Idaho and Texas, resulted in the Foreign Agricultural Investment Reform (FAIR) Act (HR3643/S1810). Essentially, this bill sought to require U.S. representatives to international financial institutions to oppose assistance by such institutions for the production of agricultural commodities in competition with U.S.-produced agricultural export commodities. The proposed legislation specified opposition to assistance for the production of any agricultural commodity for export by a foreign country if that commodity is in surplus on world markets and if the export of such a commodity would cause substantial injury to U.S. producers of the same, similar or competing commodity.

47. 1986 was a busy period for legislators attempting to respond positively to the political pressures of the various U.S. farm commodity and agro-industry interest groups, coincidentally during an election year. During the 99th Congress, in the House, 62 congressmen offered a bill to enhance the competitiveness of American industry entitled the "Trade and International Economic Policy Reform Act of 1986" (HR 4800). Among many other things, this bill included a declaration of policy respecting food aid and market development (Section 612) which stated:

> It is the policy of the United States to use food aid and agriculturally related foreign economic assistance programs more effectively to develop markets for United States agricultural commodities and products.

Regarding the mechanisms for more effectively promoting U.S. export markets, the bill suggested that food aid and economic assistance be offered to countries on a priority basis, with those demonstrating consistent and increasing importation of U.S. agricultural commodities coming first in line for such assistance (Section 618).

48. Also in 1986, Senator Dale Bumpers of Arkansas offered an amendment to the FY 1986 Supplemental Appropriations Bill (HR 4515), which became Section 209 of Public Law 99-349. The "Bumpers Amendment" was also offered as an amendment of the FY 1987 Foreign Operations Appropriations Bill before the full Appropriations Committee on 15 September 1986, and was accepted without a vote. This amendment is designed to prohibit U.S. foreign assistance for competing agricultural commodities. The purpose of the amendment is to prevent U.S. foreign assistance from promoting the export capability of countries with whom the United States faces direct agricultural export competition. The amendment states that no funds shall be expended under the Foreign Assistance Act of 1961 for:

> . . . any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference or training in connection with the growth or production in a foreign country of an agricultural commodity for export which would compete with a similar commodity grown or produced in the United States.

This provides that such prohibition shall not impinge on activities designed to increase food security in developing countries where such activities will not have a significant impact on the export of U.S. agricultural commodities or research activities intended primarily to benefit American producers.

49. It is fair to judge that the flurry of legislative activity is indicative of an immediate policy shift that will have both short- and long-term implications for U.S. development assistance programs. There is a felt need to support U.S. farmers by ensuring that U.S. foreign agricultural development assistance does not either injure them directly by unduly increasing the export market capacity in competitive products or indirectly by providing to developing-country farmers low-interest loans and technical assistance of which U.S. farmers themselves cannot take advantage.

B. Proponents and Components of Support to Developing-Country Farmers

50. International economic development is a subject which is not well understood by many within the general population of the United States. It is not a subject in which many people willingly involve themselves emotionally or financially, with the obvious exception of cases of foreign disaster relief. For some reason, the popular communications media of the United States have decided that economic development is not a subject which interests the majority, so there is no real attempt to educate U.S. citizens on the issues of larger global economic development

so essential to continuing peace and prosperity here at home. Beyond that, there is only one relatively small unit within the federal government, the Agency for International Development, which has any implementation responsibility for foreign economic development assistance. This agency has been prohibited from public information campaigns, generally, and its employees are prohibited from lobbying Congress on issues of concern to the United States relating to foreign economic development assistance.

51. Given the lack of an existing public awareness, the reluctance of the media to educate the public, and the prohibitions placed on AID employees in this regard, it is no surprise that there is really no organized U.S. constituency that actively supports or examines publicly the issues surrounding foreign economic development assistance. It is only when the financial or political interests of some other, unrelated interest groups are affected by U.S. development assistance that issues get discussed in a public forum, and then only in relation to one particular aspect of the entire development assistance program.

52. In sum, there is no organized group of proponents for continuing development assistance to developing countries. There are churches, private voluntary organizations, public and private schools, private manufacturers, consulting firms, and individuals from Maine to California who are involved in international economic development. However, when it comes to major issues

involved in the continuing level and shape of U.S. government programs in this area, there is no organized political voice to be heard by those legislators who set policy, authorize programs and appropriate funds for economic development assistance abroad. Therefore, it is difficult to discuss the issues surrounding continuation of agricultural development assistance, given the lack of an organized constituency with organized opinions.

53. Several elements of agricultural development assistance can be discussed in an effort to provide a rationale for continuing aid to developing countries in this sector. For example, it is a little known fact that approximately 90 cents of every U.S. tax dollar obligated for bilateral development assistance projects in agriculture are actually spent in the United States. In a typical project budget, there are line items for technical assistance, commodities and training--(with inflation and contingency applied to each). These planned expenditures pay for salaries and benefits, travel and shipping, expendable and durable goods, and tuitions--all acquired from U.S. citizens, companies and schools. Local costs, for the most part, are expected to be provided through the contribution of the recipient government.

54. This means that given the FY 1987 AID budget request for development assistance across regions, which totals $1,662,060,000, approximately $1,495,854,000 will be spent in the United States. This figure is exclusive of the requested Economic Support Fund obligations of $4,093,800,000 because it is

not clear exactly what proportion of this amount is actually spent on the purchase of U.S. goods and services. Regardless, the amount of money obligated and spent in the United States each year is substantial. Nested within these figures, the amount requested by AID for agricultural development assistance in FY 1987 is $709,900,000. Thus, 43 percent of all foreign aid obligated for expenditure in FY 1987 will return to the United States, some of which will be spent in the farm sector. This figure does not include the value of the U.S. agricultural products that will be purchased under the Public Law 480 program and provided to developing countries in support of economic development assistance programs in agriculture.

55. Narrowly defined, the financial benefit to the United States directly resulting from obligations to foreign agricultural development assistance should be sufficient incentive to cause close examination of any calls to cut programs in response to new and proposed legislation.

56. Those who argue in favor of agricultural development assistance to developing countries on other grounds have done so predominantly on the basis of the need to increase broad-based income growth among the majority of the population to enable pent-up demand to become effective demand for more and higher-value food and the foreign technologies that can enable developing countries to increase their production/productivity, and hence incomes, even further. Proponents have argued that this effective demand expresses itself in the form of imports of

agricultural commodities produced for export in the United States. Thus, the benefit from U.S. agricultural development assistance is mutual.

Figure 2

U.S. Agricultural Exports to Various Regions, 1971-1984

(value in thousands of U.S. dollars)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Developing countries*	[illegible]	2,722.0	[illegible]	[illegible]	[illegible]	[illegible]	7,711.0	9,537.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Africa	[illegible]	[illegible]	[illegible]	[illegible]	1,128.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Asia (excl. Japan)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10,712.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Latin/South America	748.0	[illegible]	827.0	1,437.0	[illegible]	2,127.0	2,127.0	[illegible]	3,372.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*Excludes countries in Europe and Oceania.

Source: Rossmiller and Tutwiler, 1986.

57. A recent paper commissioned by the Curry Foundation reviewed the major studies on this topic to reveal a commonly held conclusion that there is a strong correlation between increased farm production in developing countries and increased farm imports (Paarlberg, 1986). In a 1979 study performed by the International Food Policy Research Institute, it was found that among 16 agriculturally successful poor countries, while the proportion of domestic consumption satisfied by imports declined

between 1961 and 1976, net imports of staple foods increased in volume by 133 percent (Bachman and Paulino, 1979).

58. A second study, by the U.S. Department of Agriculture, found similar results in the case of Malaysia and Brazil, usually cited by U.S. farm support groups as two of their most threatening competitors on international markets. This study found that despite rapid agricultural development in both countries during the period 1967 to 1983, Malaysia more than doubled imports of food, feed grains and oilseeds. In Brazil, the study found the same pattern of increased domestic farm production accompanied by increased farm exports and farm imports, particularly grains. The study concludes that "economic development in the developing countries along the lines of comparative advantage is not competitive with [U.S.] export interests, but generally complementary to it" (Lee and Shane, 1985).

59. Another study examined changes in per capita agricultural imports in agriculturally successful developing countries in contrast with agriculturally unsuccessful developing countries between 1970 and 1980. The analysis revealed a 47 percent increase in the dollar value of per capita agricultural imports of the former group, compared with a 37 percent increase among the latter group (Kellogg, 1985).

60. Regardless of these and many other studies which point to a correlation between increased agricultural growth in developing countries and increased imports of agricultural commodities, we have shown earlier that this is not necessarily a universal

response of nations. In fact, it was suggested that the global macroeconomic environment is a much larger and more important determinant of volume and type of import decisions than is increase in domestic agricultural production. However, this does not necessarily lessen the importance of the fact that in the majority of cases there is such an apparently causal relationship between farm growth and food and feed imports in developing countries. Therefore, it is in our best interest to examine, on a case-by-case basis, the possibilities for mutual benefit in the near term resulting from U.S. assistance to developing-country agriculture.

61. Finally, there is an ill-defined issue relating to the differences among developing countries and regions with regard to basic natural resource endowment and resource base quality as related to the capability of any particular country to sustain current levels and/or increases in agricultural production/ productivity. That is, there is a question as to whether certain developing countries can realistically obtain food self-sufficiency, given projected population growth, let alone become significant exporters of agricultural commodities which are the same, similar or serve as substitutes for U.S. export commodities.

62. Primarily, this issue is raised in relation to the vast majority of Sahelian and sub-Saharan African countries and to the volcanic island nations. In these countries, arable soils in areas suitable for human habitation are exhausted, very fragile

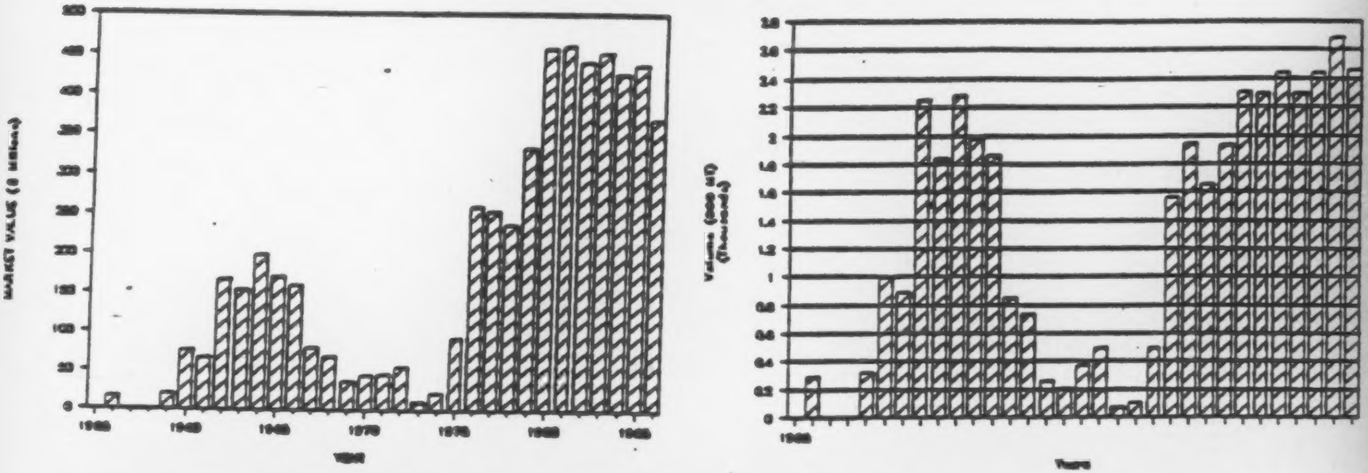
and/or made of such materials which are not especially productive. This, in combination with erratic climatic factors which mitigate against yield stability (let alone increase), exhausted or unsuitable genetic seed stock, increasing population density in rural areas (causing a loss of arable land to development), increasing health problems, and a forced rejection of agricultural production technologies which have traditionally served to account for the regenerative requirements of the natural resource base causes much pessimism regarding the future ability of these countries to feed themselves.

63. The general conclusion being reached on the part of international development specialists is that Sahelian and sub-Saharan African countries will not be able to look forward to the development of "green revolution" technological packages to transform large expanses of desert, jungle or savannah into productive "bread baskets." The basic ingredients of such a package are just not available or expected over the foreseeable future. Under this scenario, it may be that African national economic development will seek an international comparative advantage in some other sector that will enable them to import food to cover domestic food production shortfalls in the future. It is also possible that there will be unexpected events which have the effect of stabilizing population growth in these countries, which may help them inadvertently reach a state of food self-sufficiency. However, even then, these countries will need continuous assistance in human resource development and in

the transfer of improved technologies to assist them in balancing production demands and resource depletion over time. Either way, the United States is in a good position to benefit from consistent and continuous agricultural development assistance to these resource-poor countries.

64. Figure 3 shows the volume and market value of U.S. agricultural commodities provided to select African countries under PL 480 Title I (III) between 1955-86. These shipments are obviously beneficial to both the U.S. and African countries.

Figure 3. Volume & Market Value of African Pl 480 Shipments 1985-1986*



*The figures represent data for Title I (III) sales agreements for the following countries: Algeria, Congo, EACSO, Egypt, Ethiopia, Ghana, Guinea, Cote d'Ivoire, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Senegal, Sierra Leone, Somalia Republic, Sudan, Tanzania, Tunisia, Zaire, Zambia and Zimbabwe. Source: USDA/FAS/EG/PAD 4/22/87.

65. Table 1 presents information on key imports, exports and major trading partners of the African countries receiving U.S. agricultural development assistance for 1970-80 where available. These data indicate a consistent and favorable U.S. trade relationship over the decade.

Table 1. Major Imports/Exports for African Countries Receiving U.S. Development Assistance

Country[a]	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major Import Sources
Burkina Faso	1972c	live animals	31,355	Côte d'Ivoire	sugar/honey	16,880	Congo/France
		cotton	8,939	Europe	wheat (unmilled)	24,789	EEC
		oilseed/nut/kernel	31,293	Europe	live animals	8,909	Mali
	1980a	cotton	27,890	Dev.Asia/EEC	milk/cream	14,681	U.S./Europe
		live animals (food)	25,040	Côte d'Ivoire	rice	30,333	Asia/Pakistan
		oilseed/fruit nes	35,062	Europe	cereal etc. prep.	9,325	EEC/France
Burundi	1979b	coffee	27,628	-----	cereal etc. prep.	6,305	-----
		crude anim./veg. mat.	143	-----	malt incl. flour	6,256	-----
		cotton	1,775	-----	flour of wheat	10,603	-----
	1982c	coffee	30,459	-----	sugar/honey	8,337	-----
		tea	2,175	-----	cereal etc. prep.	8,058	-----
		cotton	2,063	-----	malt incl. flour	8,025	-----
Cameroon	1980a	coffee/substitute	92,908	EEC/US	cereal etc. prep.	47,097	EEC/France
		cocoa	98,166	EEC (Neth)	wheat etc. unmill.	78,833	France
		cotton	25,738	Asia/EEC	alcoholic bev.	21,044	Europe
Cape Verde	1980a	fish/preparations	1,100	Europe	maize unmilled	41,911	US/Argentina
		vegetable/fruit	2,200	Portugal	veg frsh simp prsv	9,752	Tanzania
		rice	202	Guinea-Bissau	rice	10,274	EEC/U.S.
Central African Rep.	1977b	coffee/substitute	9,769	-----	wheat (meal/flour)	6,050	-----
		-----	-----	-----	flour (wheat/meslin)	6,048	-----
		-----	-----	-----	cereal etc. prep.	2,302	-----
	1980a	coffee/substitute	10,906	EEC	alcoholic bev.	3,982	Europe
		cotton	14,285	France	wheat (meal/flour)	8,146	France/Nigeria
		crude anim. mat. nes	126	EEC/Côte d'Ivoire	cereal etc. prep.	3,061	France

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Table 1 Continued

Country	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major Import Sources
Chad	1972a	cotton	40,720	France	sugar/honey	25,839	France
		meat/preparations	6,800	Congo	wheat (meal/flour)	6,855	Senegal
		live animals	15,435	Nigeria	alcoholic bev.	1,998	Europe
Comoros	1980b	cinnamon, etc.	816	-----	rice	12,816	-----
		vanilla	13	-----	-----	-----	-----
Congo	1972c	sugar/honey	56,723	UK/China/Senegal	fish/preparations	5,500	Mauritania/EEC
		coffee	881	France/China	alcohol	10,590	North Africa
		cocoa	1,081	EEC	wheat	18,900	China
	1980a	coffee/substitutes	1,685	EEC	wheat (meal/flour)	50,201	EEC/France
		cocoa beans-raw/roast	781	EEC	meat frsh/chl/froz	3,506	South Africa
		fish frsh/chl/froz	849	Zaire	fish salt/dry/smk.	2,515	Norway/Africa
Gambia	1975d	oilseed/nut/kernel	54,199	-----	rice	13,469	-----
		fix veg. oil soft	17,039	-----	alcoholic bev.	1,511	-----
		veg. oil residues	29,965	-----	raw beet/cane sugar	672	-----
Ghana	1970c	cocoa beans	367,344	US/Ger/USSR/Jap/Aus	beet cane sugar ref	116,902	France/USSR
		coffee	6,508	UK/China	fish (can/prepared)	23,749	Japan/Spain/Morocco
		veg. prod.	3,958	UK	rice not in husk	52,791	Venezuela
	1980a	cocoa	209,264	everywhere	rice	65,878	China/other Asia
		fish/prep.	4,250	Dev. Econ. of Amer.	fish/prep.	9,000	Asia/Africa
		fruit pres./prep.	1,259	UK/Canada	sugar/honey	14,558	France/Brazil/Africa
Guinea-Bissau	1975d	oilseed/nut/kernel	13,278	-----	rice in husk/husked	14,313	-----
		groundnuts, green	8,853	-----	butter	359	-----
		sugar/honey	305	-----	alcoholic bev.	2,722	-----

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Table 1 Continued

Country	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major Import Sources
Kenya	1970c	coffee	53,720	Europe/N. Americ.	beet/cane sugar ref.	21,222	Poland/France
		tea	35,051	UK	tea	5,692	Africa/Zaire
		veg. sap/juice	5,122	Japan	food prep. nes	N/A	UK/US/Netherlands
	1981a	coffee/substitutes	86,171	US/Europe	milk/cream	11,210	US/Europe
		tea/mate	75,350	EEC	maize unmilled	77,393	US
		veg./fruit	-----	Europe/UK	tea/mate	10,072	Africa
Liberia	1970c	coffee	4,964	US	rice not in husk	49,006	US/Egypt
		palm kernel oil	13,258	EEC	food prep. nes	1,162	everywhere
		crustecea/mollusc	758	US	meal flour of wheat	6,137	US/Canada
	1980a	coffee/substitutes	12,742	Europe/Neth.	rice	86,688	US
		cocoa	3,709	EEC/Neth	cereal, etc. prep.	5,444	Europe
		fix veg oil non-sft	7,611	EEC/UK	milk/cream	4,057	Europe
Madagascar	1972c	coffee	56,245	France/US	rice	48,719	Thailand/Burma
		spices	12,197	EEC/Malayas/Indone	wheat (meal/flour)	35,191	France
		meat/prep.	14,000	France	milk/cream	5,645	France
	1980a	coffee/substitutes	63,954	Europe/US	rice	52,628	Burma/Pakistan
		spices	7,589	Europe/Asia	milk/cream	2,587	EEC
		shellfish frsh/froz	3,178	Asia/France/Afri.	cotton	2,090	Tanzania/Turkey
Malawi	1970c	tobacco unmanufac.	17,361	Europe/Australia	maize unmilled	92,345	Rhodesia
		tea	17,707	UK/Africa	tobacco unmanufac.	3,602	Zambia
		groundnuts	22,510	UK	meal/flour of wheat	-----	Australia/Canada
	1981a	tobacco	39,314	Europe	maize unmilled	56,063	Africa
		sugar/honey	137,124	US/EEC	milk/cream	3,378	Europe
		tea/mate	31,021	EEC	wheat, etc. unmilled	10,405	S.A.

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Table 1 Continued

Country	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major' Import Sources
Mali	1972a	cotton	17,155	unknown/Europe	refined sugar	17,798	France
		live animals	27,426	Côte d'Ivoire	rice	27,489	Thailand/Egypt/China
		oilseed/nut/kernel	39,660	unknown/France	tea/mate	841	China
	1977d	cotton	42,145	-----	wheat (meal/flour)	17,033	-----
		oilseed/nut/kernel	83,200	-----	tea	1,106	-----
		live animals	12,784	-----	sugar/honey	5,091	-----
Mauritania	1972d	fish/frsh sim prsvd	15,180	-----	refined sugar, etc.	18,557	-----
		fish prep/prsvd	1,443	-----	fish/frsh simp prsvd	13,857	-----
		meat/fish meal fodder	3,668	-----	tea	798	-----
Mauritius	1970c	beet cane sugar	574,948	UK/Canada	rice	58,798	Asia
		tea	2,648	S. Africa/UK	meal (flour of wheat)	45,231	France/Australia
		groundnut oil	401	Singapore	milk/cream dry	3,400	NZ/Australia/UK
	1980a	sugar/honey	771,628	Europe/UK	rice	88,011	India/China/Pakistan
		tea/mate	3,517	Africa/UK	wheat	57,777	France/Australia
		fish prep/prsvd	1,242	EEC	veg.	2,200	everywhere
Mozambique	1975d	fruit/vegetable	100,000	-----	wheat, unmilled	107,670	-----
		sugar/honey	10,345	-----	oilseed/nut/kernel	10,954	-----
		cotton	18,767	-----	milk/cream dry	2,949	-----
Niger	1972c	oilseed/nut/kernel	92,769	Europe	refined sugar	10,631	France
		live animals	60,000	Nigeria	other cereals unmill	12,625	US
		peanut oil	21,550	Africa/Europe	tobacco manufac.	496	Côte d'Ivoire/France
	1980a	live anim. for food	15,504	Nigeria	rice	35,599	Dev. Asia/not spec.
		veg. frsh/simp prsv	69,999	Nigeria	sugar/honey	36,610	Africa/EEC
		-----	-----	Nigeria	cereals unmilled	25,981	Nigeria/others

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Table 1 Continued

Country	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major Import Sources
Rwanda	1975d	coffee	26,472	-----	fix veg oil NES	5,079	-----
		tea	3,847	-----	wheat (meal/flour)	5,753	-----
		-----	-----	-----	cereal, etc. prepar.	3,228	-----
Senegal	1980a	fish/preparation	71,000	EEC/Africa	rice	302,536	Thailand
		fixed veg oil soft	73,798	EEC/France	sugar/honey	35,110	Dom. Rep.
		feed for animals	119,717	Europe	wheat, unmilled	97,157	EEC/France
Seychelles	1976d	copra excl flr/meal	3	-----	rice	5,850	-----
		cinnamon, etc.	12	-----	alcoholic bev.	790	-----
		fish frsh/chl/froz	437	-----	milk/cream	1,231	-----
	1980a	seed for oth fix oil	3,200	Pakistan	rice	7,321	Asia/Australia
		fish frsh/chl/froz	662	Africa	milk/cream	2,287	Asia/Singapore
		-----	-----	-----	feed for animal	4,813	S.African Cust. Un.
Sierra Leone	1969c	palm kernel	50,072	Europe	beet cane sugar ref.	24,960	East Europe
		coffee	5,871	US	wheat/spelt	22,605	US
		cocoa beans	3,781	Europe	fish/fresh	8,899	Oceania
	1973c	coffee	12,060	US/UK	beet cane sugar ref.	27,308	France
		palm kernel	37,507	EEC	rice	37,314	Egypt/Pakistan
		cocoa beans	7,930	USSR/Spain	wheat/spelt	40,327	US
Somalia	1970c	sheep/lamb/goat	34,351	Saudi Arabia	rice	23,269	US
		bananas	99,655	Italy	meal (flour of wheat)	22,045	Germany
		horse/ass/mule	9,695	Saudi Arabia	coconut oil	4,241	Singapore
	1980a	live animals	86,316	Middle East	wheat (meal/flour)	63,660	Canada/Italy/Thail
		fruit/nut	50,687	Italy	fix veg oil non-soft	7,745	Italy
		hides, skins	5,804	Italy	rice	30,079	US/India/Djibouti

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Table 1 Continued

Country	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major Import Sources
Sudan	1970c	raw cotton	229,995	Europe/Asia	beet cane sug. ref.	125,817	Eastern Europe
		oilseed nes	90,918	Egypt/Asia/Italy	tea/mate	19,395	India
		groundnuts	68,908	Europe/Japan	wheat/spelt	194,785	USSR/Austria/Austrl
	1980a	cotton	134,363	Asia/Europe	sugar/honey	301,301	Europe
		oilseed/nut/kernel	138,818	everywhere	wheat unmilled	200,126	US/Australia
		cereal unmilled	338,334	Asia/Saudi Arabia	tea/mate	9,209	Asia/India
Togo	1975c	cocoa beans	16,183	EEC	distilled alcoh bev	1,638	EEC
		coffee	7,934	EEC	beet can sugar ref.	2,232	France
		oilseed NES	4,589	Europe	wine	2,045	Europe
	1980a	cocoa	14,507	Europe	alcoholic bev.	9,540	Europe
		coffee/substitutes	9,030	EEC/Netherlands	sugar/honey	17,496	France
		cotton	5,184	France	tobacco manufac.	799	Europe
Uganda	1970c	coffee	191,226	Sudan/US/Eur/Jap	bovine cattle	1,263	Netherlands/Canada
		cotton	78,108	India/EEC/Jap	rice	3,548	Pakistan
		tea	14,959	UK	malt	3,728	EEC/Denmark/Austral
	1975c	coffee	187,949	EEC/Afr/US/Jap	rice	4,991	China
		raw cotton	25,367	everywhere	malt	3,384	EEC
		tea	16,953	Egypt/Pak/Brit	distilled alcoh. bev.	105	EEC
Zaire	1972a	coffee	72,493	EEC	fish/preparations	46,000	Europe/Asia/Africa
		fix veg oil nonsft	120,501	EEC	cereal etc. prep.	71,884	EEC
		feed for animals	51,255	EEC	meat/preparations	17,000	Africa/EEC
	1977d	coffee	48,616	-----	fish/preparations	27,000	-----
		animal feed stuff	-----	-----	maize unmilled	131,586	-----
		anim. veg oil fat	42,771	-----	wheat unmilled	99,643	-----

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Table 1 Continued

Country	Year	Major Exports	Volume Metric Tons	Major Export Destinations	Major Imports	Volume Metric Tons	Major Import Sources
Zambia	1975d	tobacco unmfd.	5,337	-----	wheat unmilled	157,262	-----
		maize unmilled	16,621	-----	fixed veg oil soft	10,317	-----
		-----	-----	-----	cereal etc. prep.	26,636	-----
	1979a	tobacco unmfd.	1,631	Africa/UK	wheat unmilled	75,053	Australia/US
		sugar/honey	2,684	Zaire/UK	cereal etc. prep.	23,209	EEC/US/SA
		cotton	449	UK	prepd breakfast food	13,259	US/SA
Zimbabwe	1979d	tobacco unmfd.	60,341	-----	maize unmilled	4,615	-----
		cotton	52,810	-----	animal oil excl. lard	4,403	-----
		bov. meat frsh/frz	43,354	-----	rice	3,752	-----

a - UN Commodity Trade Statistics

b - UN FAO Trade Statistics Yearbook

c - UN Foreign Trade Statistics for Africa

d - UN Yearbook of International Trade Statistics

e - Data not available for the following countries: Botswana, Djibouti, Equatorial Guinea, Guinea, Lesotho, Sao Tome/Principe and Swaziland

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66. There are many ways in which the U.S. government supports agricultural development assistance to developing countries. Through its annual obligations, the Agency for International Development supports development policy dialogue, projects and sectoral programs within specific countries and regions. AID also supports the program of research of the 13 International Agricultural Research Centers through a basic 25 percent core support grant and through additional support of specific programs. Finally, AID also administers certain Public Law 480 self-help commodity assistance programs.

67. At first blush, proponents of continuing development assistance in agriculture to developing countries should be extremely concerned with the potential of the impact on the shape and levels of such assistance as a result of the growing influence of the U.S. farm support groups wishing to curtail such aid. Specifically, the recent legislation introduced by Senator Bumpers restricting AID and U.S.-government multilateral support to foreign agricultural research and technology development in competing commodities should be of major concern. AID did draft a policy determination in August 1986 in an attempt to derail the momentum of the U.S. farm support lobby by attempting to be accommodating to the essence of the farm support groups' concerns. However, this attempt proved to be too little too late. The Bumpers amendment is now a point of law and can be expected to have an impact on AID obligations in the area of agricultural research.

68. The relevant question now is to what extent AID administrators will rely on the interpretive abilities of its legal counsel and field mission directors to enable it to pursue obligations for the research-related activities that are the subject of prohibition within the current legislation. That is, there are several loopholes within the language of the legislation which leave a great deal of room for discretionary application or rejection of the new prohibitions. For example, the prohibition will not apply to research designed to increase the domestic production of competitive crops if such production is deemed necessary for the internal food security of the developing country in question. Further, research activities leading to such increases in the production of competitive commodities should not be supported if such production would have a "significant" impact on the U.S. exports of the competing commodity. Finally, such research may be undertaken if it is done with the ultimate objective of benefiting U.S. producers. Elaboration on the value of such loophole phrasing is not necessary here.

69. Therefore, regarding the country and regional programs supported through bilateral aid, there is sufficient reason to doubt that there will be much impact resulting from recent prohibitive legislation. A major question remains, however, as to the potential impact on AID assistance to IARCs.

70. The majority of these centers have been specifically created around the need to develop new information and technologies to

increase the production of the world's major food commodities (e.g., rice, wheat, corn, potato, cassava, millet, chick pea, sorghum, livestock, etc.). As is readily seen, the United States is a major exporter of many of these commodities. Therefore, there is real potential for negative impact in the case of IARC support. Since the U.S. contribution to this multi-donor-supported organization of research centers constitutes 25 percent, any major reduction would be a cruel blow to many of the most important centers in terms of their continuing capacity in technology generation and transfer to developing countries. An option which immediately occurs is to transfer U.S. support to a multilateral funding mechanism, rather than retain it within AID. However, this option would run into essentially the same obstacle given the new legislation restricting U.S. participation in multilateral financing of programs which support the development of an export capacity in developing countries in competing commodities. Creativity on the part of AID administrators will most certainly be the only savior of the U.S. contribution in support of the IARCs, as the public support that would be required to lobby in their defense is not expected to materialize.

71. In closing this section, it is fair to predict that the burden of advocacy of continuing U.S. agricultural development assistance will rest squarely where it has been in the past, and that is with the Agency for International Development. As there is no other organized constituency to support continued aid to

foreign agriculture, AID administrators will draw selectively on the best intellects in the country to assist them in setting a sensitive and creative strategy in the continuation of the pursuit of established AID agricultural development objectives.

III. CONCLUSIONS

72. The foregoing discussion has attempted to touch upon the foundations and constituencies on both sides of a current debate within the foreign policy arena regarding the wisdom of the continuation of U.S. agricultural development assistance to developing countries. While such development assistance is important to the United States in terms of the humanitarian, political/ideological and national security objectives that have been set for U.S foreign policy, the current debate brings into question whether such assistance is in the best economic interests of the United States.

73. The economic theories which form the conceptual framework for U.S. foreign policy in this area were highlighted and then questioned in terms of the ability of these theories to adequately predict the outcome of U.S. agricultural development assistance, given that the assumptions underlying these theories are not valid in the real world. A wide-ranging set of government interventions in domestic agricultural markets, combined with unusual global macroeconomic conditions of the past two decades, have been identified as primary factors in the distortion between theory and reality. The proponents and components of support for U.S. agriculture were demonstrated to be powerful in respect to their ability to influence Congress to take action on their behalf, regardless of the soundness of their arguments.

74. On the other hand, it was demonstrated that there is no organized political constituency for the support of U.S. development assistance programs in developing countries. The only organized proponent for continuing assistance to developing countries in agriculture seems to be the U.S. government agency which is authorized to implement the foreign policy legislation. As such, they have no voice with which to influence the actions of legislators elected to serve the electorate.

75. This imbalance of power within this debate has proven dangerous in that prohibitive and restrictive legislation has recently been passed. The new laws prohibit U.S. participation within multilateral donor programs designed to promote the foreign domestic production of commodities which compete with major U.S. export commodities on international markets. Other recently enacted legislation restricts the use of funds for agricultural research activities that will promote the production of same, similar or substitutes for major U.S. agricultural export commodities by developing countries.

76. It was suggested that the Agency for International Development will respond in the same way that it has done with many other special interest groups in the past. That is, whether the drafting legislators purportedly left the language of the new legislation filled with loopholes or not, the presence of such loophole language will enable AID administrators an enormous flexibility in interpreting certain key areas relating to prohibition and restriction. This internal agency flexibility

seems certain to provide a cushion from what could otherwise have been disastrous to U.S. bilateral development assistance programs.

77. However, one area--the International Agricultural Research Centers--remains in jeopardy unless some very creative interpretation of the intent of Congress enables U.S. contribution to continue. These centers are of critical importance to the future food self-sufficiency of nations throughout the developing world.

78. Given the fact that legislation has been enacted which prohibits or restricts U.S. funding for certain essential agricultural development programs, it would seem fair to conclude that there is no longer a policy dilemma in this regard. The decision has been made. On the other hand, if AID's response proves to be along the lines suggested, then in reality the dilemma is still present. The dilemma is now slightly changed from a two-party argument to an internal dilemma for the Agency for International Development. What role and level of responsibility does AID now have in order to reasonably try to promote the economic growth of developing countries and to assist them in producing for trade along the lines of comparative advantage? To what extent can this be done and still be ever mindful of injury to U.S. farmers, even if U.S. farmers are no longer efficiently producing these same commodities?

79. The art of legislative interpretation by AID's office of General Counsel will certainly be employed by the Agency in

attempting to be responsive to the intent of various prohibitive and restrictive legislation affecting U.S. agricultural development assistance. Beyond taking advantage of legislative loopholes to attempt to save essential agricultural development programs from congressionally imposed deobligation there are several actions which the Agency might consider as elements within a fully responsive strategy in relation to the new legislation. First, it was suggested that a more in-depth macroeconomic assessment be made of the current and projected performance of the major economic sectors of each country considered for annual economic development assistance. The Agency currently employs such an overview mechanism, called the Country Development Strategy Statement (CASS), in the process of conducting U.S. based review of country mission development assistance plans. However, the CASS preparation process would have to be substantially revised in terms of developing country government statistical input and the provision of highly trained U.S. macroeconomic specialists, in order to provide the detail and level of economic analysis necessary to inform U.S. legislative and agency decision making with regard to country agriculture production and commodity export projections. If this type of analysis were an on-going function of the U.S. Embassy Economic Affairs Office and the USAID Chief of Program Officer, then relatively current information would be available to Agency administration to use in judging whether certain proposed development assistance programs could reasonably be expected to lead to the development of a sustainable competitive position of a foreign country on international markets in relation to major U.S. agricultural export commodities.

80. Further this level of detailed sectoral performance information would enable the Agency to formulate policy which would be responsive and compatible with congressional intent to protect U.S. agricultural export markets. Such a policy might be based on an Agency determination that where a country is applying U.S. agricultural development assistance to increasing domestic agricultural production for the purpose of increasing agricultural exports, and clearly, by doing so, is moving away from an import substitution food security strategy toward a foreign currency generation strategy, then the form and substance of continuing U.S. development assistance will be re-examined. The development of such a policy would give the Agency the basis for examining the potential for injury to U.S. agricultural export markets as a direct result of specific Agency agricultural development program/projects.

81. According to arguments forwarded by macroeconomists and economic historians examining this subject, two of the most influential factors that will determine the ability of developing countries to continue along the path toward a position as full partners in the international economic system are beyond the control of the U.S. government, let alone the Agency for International Development. The factors--interest rates and inflation rates--are determined by the aggregate actions of all

nations. In response to this argument, some have suggested that the capacity for macroeconomic policy analysis within developing nations can be strengthened by working bilaterally.

82. Others have suggested that a more complex set of political and technology-related factors will come to affect the ability of AID to assist these developing countries. Certainly, with growing industrial-country protectionism in relation to agricultural production and trade, developing countries will find it more difficult to gain access to trade markets regardless of their increased domestic production capacity. Technology development and transfer from developed to developing country may become more difficult as well in this protectionist environment.

83. Over the short and medium term, there will probably be two other factors that will have negative impacts on the continuing ability of AID to assist developing countries. The national debt of the United States and the level of annual budget deficit are becoming major political targets of opportunity for politicians with longevity in mind. Legislation such as the "Gramm-Rudman" Act of 1986 will continue to make significant cuts in the level of public budget and expenditure over the foreseeable future. Even across-the-board cuts will cause AID great pains in its attempts to serve the developing world, because of political earmarking of a large percentage of the AID budget for support to military and political friends. With the dollar amount of these allocations set and skimmed off the top, whatever is left will go

to the rest of the world. This fact may make the entire discussion rather a moot point in the near future.

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FINAL DRAFT

LOW-RESOURCE AGRICULTURE IN AFRICA

Case Studies: Factors Influencing Agricultural Production of Small Farmers in Zimbabwe and Malawi

by

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FINAL DRAFT

CASE STUDIES: FACTORS INFLUENCING AGRICULTURAL PRODUCTION OF SMALL FARMERS IN ZIMBABWE AND MALAWI

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CASE STUDIES: FACTORS INFLUENCING AGRICULTURAL PRODUCTION OF SMALL FARMERS IN ZIMBABWE AND MALAWI

A. INTRODUCTION

This paper focuses on the agricultural production of small farmers on communal lands in Zimbabwe and smallholders in Malawi. These farmers are a heterogenous group; while most are poor, not all share to the same degree the characteristics of OTA's definition of low-resource agriculturalists. Many, for example, use hybrid maize seed and chemical fertilizers. The methodology used to gather information for this analysis was to interview persons knowledgeable about small farmer agriculture in these two countries and to read selected references, some of which are listed at the end of the report.

In the first sections, the role and trends in small farmer agricultural production in each country are reviewed briefly as background for an analysis of the various technological, policy and institutional factors which help account for these trends. The emphasis is on factors over which governments (or the private sector) have a significant degree of control. While a few maintain that increased production is principally due to increased rainfall, this is assumed to be a necessary but not sufficient condition for the overall trends. In the next section, factors influencing production in the two countries are compared, including some environmental and historical givens which provide the context for action by the government, private sector and small farmers. The conclusion deals with the role of U.S. policy dialogue and issues of sustainability, replicability, and equity, topics of central importance to U.S. policymakers.

B. FACTORS INFLUENCING INCREASED PRODUCTION OF COMMUNAL FARMERS IN ZIMBABWE

1. Trends in Small Farmer Agricultural Production

At Independence in 1980 Zimbabwe inherited a strong agricultural economy, divided into an export-oriented commercial sector and a subsistence-oriented communal sector. Each sector controlled about 40% of the land (Winter, 1985) and the staple food, maize, is produced by both sectors. Zimbabwe was self-sufficient in maize production until 1981; following several years of drought, maize was imported in 1983. The Mugabe government has aimed to increase production on the communal lands, while maintaining the production and export earnings of the white commercial farmers. Land redistribution, a burning issue during the war for Independence, has been very limited. Thus the relative proportions of people and land in the two sectors are only slowly changing: today the 4500 white commercial farmers average 3000 ha, while the 800,000 communal farmers average 2.5 to 3 ha (Mumbengegwi, 1986). The commercial farmers have the better endowed land; two-thirds of the communal farmers live on land judged poor for farming. Only half of communal farmers have any cattle (Moyo, 1986) and they produce most of the cash crops, such as maize and groundnuts, produced by this sector (Devres, 1985).

Yet, due to policy and institutional changes described below, small farmers have significantly increased their production. (In Africa, production data is less reliable than data on crops marketed.) Official estimates are that communal maize production was essentially stagnant between 1970 and 1979, fluctuating between 400,000 and 500,000 metric tons per year with the lows due to poor rainfall or disruption of war, and comprised about 30% of the total maize production. But from 1980 to 1985 communal maize production more than tripled to an estimated 1.6 million metric tons or 50% of Zimbabwe's total output (Rohrbach, 1986). In addition, maize yields in communal areas have increased from an average 600-700 kg/ha in the 1970s to 1200 kg/ha in 1985/86 (Makombe, 1986).

Since 1980 the total amount of maize marketed by communal farmers has also greatly increased. Before 1980 their sales averaged less than 5% of the Grain Marketing Board's (GNB) maize receipts, but they increased to over a third in 1985 (Rohrbach, 1986). Despite the drought, in 1984/85 communal farmers delivered record quantities and percentages of maize and cotton for sale: their percent of the maize marketed increased from 10% in 1980 to 40%; of cotton from 10% to 25%. They purchase over half of hybrid maize seed (Winter, 1985) and 25% of fertilizer (AID, 1985). In addition, an increasing percent of total communal farmer production is marketed: in 1980 89% of communal maize production was not delivered to marketing boards, by 1984/85 it declined to 59% (Mumbengegwi, 1986). However, since the commercial farmers also sell other high-value crops, the communal farmers still contribute a small share of the total value of marketed agriculture. Their share of total sales of all crops to these boards increased more than two-fold from 6% to 15% between 1980 and 1984 (Mumbengegwi, 1986).

The increase has not been evenly distributed among communal farmers. While the number of communal farmers registered to sell to the marketing boards tripled so that 40% are registered (Winter, 1985), less than a quarter actually sell maize to the GMB (Rohrbach, 1985). Nearly two thirds of communal farmer grain deliveries to the GMB are from two better endowed regions (of 5) mostly in the three Mashonaland provinces (of 8) nearest the commercial areas. The Ndebeles, who comprise 20% of the population, live in the more arid southwest (Matebeleland) and sell less to the GMB. There are food deficit areas within Zimbabwe; last year Oxfam provided transportation to move food from surplus to deficit areas within the country (Okali, personal communication, 10/10/86). Some communal farmers have benefitted greatly. But one assessment is that for each one doing better, five to ten are struggling as much as before (NPR, 1986). Small farmer leaders interviewed were more optimistic, maintaining that most are better off than before (Gapare and Magadzire, personal communication, 10/2/86).

2. Factors Influencing Increased Small Farmer Production

At Independence the new government inherited strong agricultural institutions and policies which had been operating primarily to the benefit of the commercial sector. Mugabe instituted non-discrimination in these policies and services, in line with his commitment to a multi-racial state. Not only were the services and programs made available to the communal area farmers, often for the first time, but also the government was committed to expanding its investment in these areas. However, since many of the technologies and programs developed for large commercial farms proved ineffective in communal areas with its very different natural endowment and resource-poor farmers, most of these programs and services needed to be reoriented and restructured to effectively deal with these problems. Assessments differ as to the degree to which this reorientation has been accomplished.

a. Technological factors

* Adapted packages of improved varieties, especially of maize and cotton. Researchers in colonial Zimbabwe developed and released hybrid maize in the early 1950s and colonial administrators subsequently banned the use of traditional varieties (Moyo, 1986). Today virtually all communal farmers use hybrid maize seed, though many cannot afford the other inputs, especially fertilizer, necessary for higher yields. And 20% of the communal farmers produce cotton (Winter, 1985). Since most of the available packages for maize and cotton were developed for higher rainfall areas, they work best on higher

rainfall communal lands. While maize is not an appropriate crop for much of the drier communal lands, newer, short-season varieties have improved production in some areas (Devres, 1985).

b. Policy factors

* A high priority given to agriculture by the goverment. The Commercial Farmers Union, representing the large white farmers, had an important voice before Independence in shaping favorable agricultural policy decisions, such as government investment in agriculture and higher prices, and remain an important political force in Zimbabwe. The Mugabe government has continued to give a high priority to agriculture which is reflected in the relatively high level of public investment in agriculture as well as in the objectives of the national development plans, notably Growth with Equity: An Economic Policy Statement.

* A relatively effective system for timely delivery of inputs in increasing portions of communal lands. Agricultural inputs--improved seeds, fertilizer, pesticides and equipment--are privately produced and distributed in Zimbabwe. Zimbabwe is one of the few African countries with well-developed agro-chemical industries, some linked with multinational companies. While these companies manufacture nitrogen and phosphate fertilizer, costs are high, and about half of the chemical fertilizer needed is imported. The government-set price of fertilizer has increased 80% since Independence (Winter, 1985).

The distribution system, consisting of private vehicles and rural stores, works effectively in some areas, but not in others. For example, the communal areas located furthest from the commercial farming areas, which have more developed infrastructure, may only receive timely deliveries of hybrid seed. Other farmers are unable to take advantage of available inputs due to lack of sufficient land, labor, capital or management information. As a result, many communal farmers do not use chemical inputs because of distribution problems, lack of capital and management information (Devres, 1985).

* Increased availability of credit. The increase in use of imputs in communal areas has been due in large part to the rapid expansion in the number of communal farmers obtaining credit. The major provider of credit to communal farmers is the parastatal Agricultural Finance Corporation (AFC). Seasonal loans are given for specific pakages of inputs at market rates (13% in 1986) to communal farmers who have completed courses by AGRITEX, the government extension agency, and are collected by another agency, the GMB, through "stop orders." The amount owed to the AFC is deducted from payment to farmers for crops delivered to the GMB buying points. The number of communal farmers receiving AFC credit rose from 4000 in 1980 to over 100,000 last year (Winter, personal communication, 10/9/86). But this still represents only a minority of communal farmers (estimates range from 12% by Winter to 8% by Mumbengegwi) and of AFC lending (16% of total lending is to communal farmers, Mumbengegwi, 1986). Recently some farmers have been unable to repay their loans; they either retain their crops for subsistence consumption or sell them to others, including approved buyers, who do not collect outstanding AFC loans. However, normally they cannot receive a new AFC loan until prior ones are repaid.

* Incentive pricing and relatively effective marketing system. Prices, usually announced before planting, have increased for all marketed products since 1980, but most for maize, whose price increased by 112% (Winter, 1985). Since 1980, traditional food crops, especially millets, were included in officially marketed crops. Relative to other crops, prices of sorghum, millet and groundnuts increased less, and relatively less acreage was planted to these crops (Winter, personal communication, 10/9/86). The government sets

agricultural prices based on production costs and these have been above world market prices. This pricing policy has been an important factor in increased production, marketing and costly surpluses of maize and sorghum. Consequently, the government is providing incentives to diversify, and it is probable that the commercial sector will produce less maize. Consumer food subsidies have also been reduced.

Another reason for the increased agricultural production of communal farmers since 1980 is the expansion in the number of buying points (to 150) in the communal areas. The GMB, the most important marketing parastatal for communal areas, purchases grains delivered to its collection points at guaranteed prices and transports them to regional storage depots. By deputizing existing stores to serve as official buying points, the GMB built on an existing network. Before Independence many farmers had to travel more than 120 kilometers to the nearest marketing depot, now many do not have to travel more than 20 kilometers (Gapare, 1986). Farmers nearest the collection points find it easiest to market their harvest. Communal farmers are increasingly marketing their production; yet some 40% lack access to the transportation and marketing infrastructure (Moyo, 1986). The input delivery and marketing systems work best in communal areas nearest the commercial farming areas in part because the marketing and transportation infrastructure is more developed in these areas.

c. Institutional factors

* Well established, effective agricultural research and extension institutions, with good relationships between them and the training institutions. There are a number of government, parastatal and private research institutions working to a greater or less degree to improve technologies available for the communal areas. For example, the government research institution, the Department of Research and Special Services (DRSS),

is working on improving drought-tolerance of cash crops and on traditional crops, including pulses, sorghum, millet, groundnuts and cassava. It is also conducting crop and livestock research in different agro-ecological zones of the communal areas. DRSS has good relationships with the FSR unit in AGRITEX and with the University of Zimbabwe, which is working with CIMMYT and Michigan and Pennsylvania State Universities. The government extension workers are trying alternative methods, including on-farm agronomic trials, increased training of women extension agents, using the radio, and working with local farmer groups. Non-profit organizations, such as the Catholic church supported Silveira House, provide valuable training and extension services to communal farmers and assistance in forming cooperatives.

d. Other factors

* Motivation and hope that accompanied Independence. The new government's establishment of non-discriminatory policies allowed communal farmers access to agricultural programs previously offered solely to white commercial farmers and gave them hope that they could improve their lot. In 1981 Parliament granted women equal rights in land ownership and in agricultural training and credit programs, improving their access to the new technologies. While the accompanying promise of redistribution of the land held by the commercial farmers has not been realized, many small farmers feel pride in their agricultural accomplishments, which are praised by the government.

* Private small farmer organizations having a voice. Since Independence, several private organizations have been recognized by the government as representing communal area farmers. Two of the most important are: the National Farmers Association of Zimbabwe (which represents the 800,000 communal farmers), and the association of small-scale commercial farmers, the Zimbabwe National Farmers Union (which represents 9,000 black

farmers who average 200 ha of land). The National Farmers Association, with branches throughout the country, participates in negotiations with the government in setting prices--unique in Africa--and all agricultural policies and programs. Its political clout was demonstrated by the fact that Prime Minister Mugabe addressed its annual meeting last year. Many other small farmer groups have proliferated in rural areas since 1980, including savings clubs, purchasing cooperatives, and women's clubs.

* Well-trained, professional civil servants. Zimbabwe has a large number of trained professionals committed to development. The government agricultural institutions and parastatals are in general professionally and competently managed by trained Africans. Prime Minister Mugabe not only inherited a strong agricultural infrastructure but also aimed to utilize the management skills of white Zimbabweans and British expatriates. Assessments differ as to how successefully this has been accomplished. Yet outsiders comment on the common expectation that standards of professional quality will be upheld and that "things work."

C. FACTORS INFLUENCING INCREASED PRODUCTION OF SMALLHOLDERS IN MALAWI

1. Trends in Small Farmer Agricultural Production

Malawi is one of the few African countries to have consistently achieved self-sufficiency in food production since its Independence in 1964; 1981 was the only year that imports of maize were required, due to drought. In the following years it exported maize, principally grown by smallholders, to its neighbors. The 1.1 million smallholder households in Malawi, despite their average farm size of slightly over one ha and the fact that only one in ten has any cattle, play an important role in agriculture: while 70% of Malawi's land is available for use by smallholders, they farm 18% (and another 13% lies fallow but was cropped in the past five years) of the land and are responsible for 80% of agricultural production. On the other hand, the estate sector, which mainly produces tobacco, tea and sugar on 1100 estates using 5% of the land, provides most of the export earnings (80%). Production has been increasing most rapidly in the estate sector, averaging 17% annually since 1968 compared to the estimated 3% growth in the smallholder sector (Devres, 1985).

The usual measure used to point to an increase in production is the dramatic increase in purchases of smallholder agricultural products, especially maize, by the government Agricultural Development Marketing Corporation (ADMARC). At the 1986 UN Special Session on Africa, Peter McPherson noted "an 85% increase in maize prices resulted in over 200% increase in marketed output." However, data on total agricultural production of smallholders, most of which is assumed to be consumed rather than marketed, is neither reliable nor available. Maize, grown on 75% of customary (smallholder) land, is the staple food of the vast majority of Malawians, with rice the staple food along the lakeshore. Both maize and rice are produced as food crops for subsistence consumption and as cash crops for sale to ADMARC. Yet traditional varieties are grown for home consumption because of taste preferences and better storage qualities, while higher yielding varieties are grown for sale. Unfortunately, traditional milling by hand lowers the nutritional value of maize because it removes the outer layer of the kernels (Spring, personal communication, 9/28/86). Also, increases in maize production resulted in part from more continuous cropping and expansion to marginal lands, reducing soil fertility in some areas (Leibenow, 1982).

Smallholder marketing of other crops also increased. ADMARC purchases of groundnuts, grown by smallholders in rotation with maize as food and cash crops (improving soil fertility, diet and income), increased to two to four times what it had been before Independence (Leibenow, 1982). Tobacco is grown by 110,000 or 10% of smallholders; cotton by 60,000 or nearly 5% of smallholders (Devres, 1985). Beans are also intercropped with maize. But one analysis is that intercropping is decreasing, as is marketing (and presumably production) of millet and sorghum, pulses, and cassava, which are being displaced by the higher value crops (Leibenow, 1982).

The extent to which all of Malawi's small farmers share in increased marketing of agricultural production, which is due in part to the use of improved varieties of seed, fertilizer and pesticides, is not clear. ERS data show that less than 10% of the ha planted in maize were planted in hybrid seed (Tables 1 and 6), but ERS data on fertilizer use is not clear. Other estimates are that in areas of major investment about 40% of smallholders use improved seeds and fertilizer (Honadle, personal communication, 10/7/86) or that the top 20-25% of small farmers are doing well and the bottom 30-35% are desperate (personal communication, Spring referring to Pat Fleuret, 9/28/86). Not all farmers who plant improved varieties of maize use the recommended amount of fertilizer or use it in recommended ways. But in one district 58% of the small farmers surveyed used fertilizer for local maize (Spring, 1986a), indicating that those farmers who can afford fertilizer use it on crops produced for consumption as well as on those produced for sale.

2. Factors Influencing Increased Small Farmer Production

a. Technological factors

* Adapted technological packages of improved varieties. Technological packages were developed over time that met the requirements of the environment sufficiently to be adopted by small farmers in many areas of Malawi. British researchers had conducted on-farm trials to develop improved varieties of seed, and fertilizer and pesticide packages to accompany them, during colonial times for export crops of the estate sector, and after Independence for small farmers as well. The first hybrid maize used in Malawi, askari, was developed

from maize brought from Kenya by these researchers and released before 1967 (Honadle, personal communication, 10/7/86). Ongoing research by the government and private agricultural research institutions has resulted in viable packages of higher-yielding varieties of most of the cash crops. Relations with the International Agricultural Research Centers are good. Efforts are now being made to develop and adapt improved varieties of the traditional crops such as sorghum, millet and cassava.

b. Policy factors

* Agriculture given a high priority by the government. The Malawi government has given highest priority to agriculture since Independence; infrastructure and agriculture have been the major sectors of government investment. For example, in the first half of the 1970s agriculture received 25% of government expenditures; from 1976 to 1979 it averaged 16% (Wolgin, 1983). The overall goal of the National Development Plan is to promote economic development by expanding agricultural production for export, maintaining food self-sufficiency and improving rural incomes.

* An efficient system of delivering inputs (seed, fertilizer, pesticides) and purchasing agricultural production at prices which provide incentives for smallholders to produce for sale. The Agricultural Development and Marketing Corporation (ADMARC) is a statutory body established to purchase smallholder crops (estate crops are mostly marketed through private trading companies), to sell food crops, and to sell and deliver agricultural inputs (seeds, fertilizers, pesticides, and sometimes implements). ADMARC operates a national network of marketing sheds and storage facilities for these purposes. Since 1971 it also became owner of a number of estate farms, and has invested in a number of enterprises, at first related to agriculture and later in industrial and commercial ventures (Wolgin, 1983). Almost all chemical fertilizers and pesticides are imported, but improved seeds are produced in

Malawi. ADMARC pays or charges prices as authorized by the Price Review Committee of the Malawian goverment. The pricing policies, in effect, have either taxed or subsidized the production of certain crops at different times. For example, ADMARC's predecessor in the 1960s generated a surplus from small farmers that was partly reinvested in the estate sector (Honadle, personal communication, 10/7/86). More recently ADMARC raised prices of maize and smallholder crops and reduced fertilizer subsidizes (Steele, personal communication, 10/13/86). It has not subsidized food prices for urban consumers (Devres, 1985). ADMARC is recognized as one of the most effective agricultural marketing parastatals in Africa (Steele, Honadle, personal communication) and its pricing policies as important to increasing smallholder production and marketing of maize.

These policies have resulted in a large surplus of maize, with ADMARC paying for storage, and the establishment of strategic grain reserves. One aspect of the problem is that ADMARC has refused to sell surpluses at less than the price it paid for the stocks. Because of the surplus stocks there has been increased discussion on how to diversify agricultural production. AID and the World Bank have urged ADMARC to divest itself of investments in other companies, eliminate fertilizer subsidies and other measures under structural readjustment and policy reform programs.

* Credit available to small farmer groups. Increasingly smallholders have access to seasonal and medium term credit through rural development and resettlement projects of the Ministry of Agriculture or the Loan Board under the Ministry of Trade and Industry. But since few small farmers are considered eligible for individual loans, most credit is given to local farmer organizations which are responsible for repayment. Although increasing proportions of small farmers have access to credit, still a limited number of farmers actually receive loans. For example, a Lilongwe Rural Development

Project survey indicated that the majority of members of farmers club members in the district received seasonal credit, but only about 25% of farmers were members of the clubs (Spring, personal communication, 1/28/87).

c. Institutional factors

* Agricultural research, extension and training redirected to small farmers. While there is room for improvement in each of these systems and for better linkages among them and with the small farmer, the government services support the smallholder sector production of both food and cash crops. The public training institutions, Bunda College and the Natural Resources College, have resulted in increased numbers of trained Malawians replacing expatriates in these services. The division of the country into eight Agricultural Development Divisions (ADDs) was part of an effort to enable extension programs reach more farmers; an important emphasis of extension is to encourage the formation of farmers clubs.

d. Other factors

* Personal support of President Banda. Dr. Hastings Banda, head of state since Independence, has personally supported agriculture with publicized visits to farms during planting and harvesting, exhortations to hard work in farming as one's national duty, and making agricultural development a prioity of his hierarchical, centralized government. Through his company, Press Holdings, and other means he is also involved in estate production.

* Work ethic and efficiency of the Malawian people. Small farmers, government workers and private employees in Malawi exhibit the work ethic and a high degree of efficiency and honesty in their efforts. A common observation of outsiders is that "things work" in Malawi, eg, from careful data collection by researchers to timely delivery of available inputs to farmers.

* Awareness of the importance of women in agriculture. Nearly 30% of the farms in Malawi are female-headed (ERS, 1986) and much of the country is habited by matrilineal and uxorilocal cultures, which affects access to land. Agricultural agents and administrators, aware of the importance of meeting the distinct needs of women farmers, in the 1980s have begun collecting sex-disaggregated data, conducting gender analysis of program impacts and training extension personnel to reach women farmers (Spring, personal communication, 9/28/86). The ADDs have clearly stated goals for reaching both men and women farmers and are evaluated in part on how well their programs are reaching women (Cloud, personal communication, 1/28/87).

* Role of the Congress Party. Although principally seen as a means of control, the one legal political party also operates to carry information on agricultural prices and recommended practices down to the local level. Party representatives monitor local officials, assuring they are doing their job in implementing policy. In addition, as a parallel organization to the government, the party provides feedback from the rural areas back up the system and so has influence on setting policy, including pricing policy (Cloud, personal communication, 9/29/86).

D.COMPARISON AND CONTRAST OF FACTORS INFLUENCING INCREASED PRODUCTION OF SMALL FARMERS IN ZIMBABWE AND MALAWI

1. Similarities in agricultural programs and their impacts

The similarities in the agricultural policies and programs conducted by the two countries outweigh their differences. Agricultural researchers in both countries developed technologies and packages of higher yielding seed, especially maize, and other inputs that were adapted to the environment. Incentive prices were offered for production of food and export crops and small farmers were provided access to inputs, credit, extension and marketing programs originally devloped for large commercial farmers. In both there are effective marketing parastatals and improved rural infrastructure; although Malawi received less at Independence, it has had more time since Independence to build this infrastructure. Zimbabwe has a greater number of agricultural research, extension and training institutions than Malawi. Both governments have reoriented the public agricultural research, extension and training institutions towards providing services to small farmers. At this time, only Zimbwabwe's continue to provide some services to commercial farmers, but Malawi is considering such services. Commercial farmers in both nations support private, commodity based research and extension programs, sometimes through levies collected by the parastatals. Neither government has fundamentally altered the commercial sector since Independence. In both countries agriculture has been a high priority of governments and donors.

However, there are differences in input and credit systems. In Zimbabwe, the parastatal AFC is the major provider of credit to communal farmers and input production and delivery is private and dispersed, with seeds, some fertilizer and farm equipment produced in country. On the other hand, in Malawi, the parastatal ADMARC purchases and delivers inputs (and it must import fertilizer, pesticides and equipment), but there is no centralized program to provide credit to smallholders, though some is offered by government agencies. ADMARC is also the agricultural marketing parastatal, combining both input delivery and marketing functions that are handled by a number of parastatal and private companies in Zimbabwe. But in both countries, pricos of agricultural inputs and products are set by the goverment.

Similarities also outweigh differences in impacts of these policies and programs in the two countries. (1) There has been increased small farmer marketing and production (with qualifications about data already noted, especially for Malawi), especially of maize but also of other cash crops including non-food crops. This has been accompanied by increased use of improved varieties, chemical fertilizers and pesticides and of credit to obtain them. In short, there has been an increased entry of communal farmers into commercial agriculture. (2) The benefits of these changes have been unevenly distributed within the small farm sector. Clearly some but not all have benefitted. A key criteria in judging success of the above programs and policies is the percentage of small farmers affected as well as how these percentages have changed over time. But there is a lack of data on rural incomes, percentages of small farmers using inputs, production and consumption of various crops that can be disaggregated by region, age, gender and household characteristics, etc. In both countries there are areas of better natural resource endowment and of higher government and private investment within communal areas. Yet the problem of regional differences is more acute in Zimbabwe and exacerbated by the political tension and civil strife within Matabeleland. (3) The surplus commodities are a problem for both countries, exacerbated by their landlocked position, high transporation costs, the threat of sanctions from the RSA, the poor economies of their neighbors and low world market prices. Both countries are stressing diversification. Yet since almost all maize is produced by small famers in Malawi, they must bear the brunt of diversification; whereas in Zimbabwe, the commercial farmers who produce slightly over half of the maize are better positioned to expand their current production of other crops.

2. Differences in environmental, historical and political contexts

There are numerous differences in the physical environments and natural resource endowments between as well as within the two countries. Malawi is blessed with generally good climate and soils with a larger percentage of the country in higher rainfall zones than Zimbabwe. While a greater portion of

Malawi is better endowed for agriculture, it has no mineral resources, and depends on agricultural for 90% of its export earnings. Zimbabwe has a larger percentage of its area and population in semi-arid and arid zones, but because it has mineral resources and an industrial base, agriculture accounts for only 38% of its export earnings (AID, 1985). While Malawi has a higher population density than Zimbabwe, arid land supports less dense populations, and a greater percentage of Zimbabwe's population lives in urban areas. However, small farmers in regions of both countries are experiencing overcrowding (high population density), overcropping (especially on marginal farm land), and loss of fertility from continuous cropping, and erosion. The limits to expansion of the area cultivated are being reached in both nations.

There are also important differences in the colonial heritage of the two countries. Zimbabwe was a colony (self-governing since 1923) of the UK and Malawi a protectorate; thus white settlement was encouraged in the colony, and title to land given to settlers, while the opposite was true in the protectorate. At Independence Zimbabwe inherited more developed agricultural institutions and rural infrastructure, an industrial base, better educational and health facilities, etc., because of this basic difference. Southern Rhodesia was regarded by the British as a well endowed, potentially rich area, while Nyasaland a backwater. British investment had different goals in Malawi, the railroad left Malawi empoverished (Vail, 1977) and the estate agricultural sector was not very profitable (Chanock, 1977). However, colonial laws and programs empoverishing the African farmers in both countries are well documented (Palmer and Parsons, 1977) and a dual agricultural economy was established in each.

But this dual economy, and the land ownership structures on which it is based, took different shape in the two countries. In Zimbabwe the 4000 white farmers own 45% of the total land and 70% of the good land (AID, 1985) and the

800,000 peasant families share the less desirable communal lands. Land redistribution was an important motive in the war for Independence, but has progressed slowly with only 2.5 million ha distributed to 35,000 families after voluntary sale by white farmers (the government has the right of first purchase), much less than the Mugabe government target (Mumbengegwi, 1986). In Malawi before Independence white settlers comprised only one percent of the population and only two percent of the land was allocated to them on a freehold or leasehold basis (Liebenow, 1982). Today the 1100 black and white estate holders leasehold the land from the state (no one owns title to land); they control five percent of the land. The 1.1 million peasant households are allocated land use rights by traditional systems. While land shortages exist in both countries, land distribution is not as political an issue in Malawi as in Zimbabwe. The estate and commercial sectors still control the lion's share of the agricultural economy in each country.

Then, too, the political and economic ideologies of the two leaders are very different: the democratically elected Prime Minister Robert Mugabe proclaims a socialist path to development; President-for-Life Banda the capitalist way. Mugabe is leader of the non-aligned movement, while pro-west Banda has collaborated openly with Israel, Taiwan and the RSA. Yet the agricultural policies of each are not that different and both have mixed economies. In socialist Zimbabwe, there are many private agricultural institutions and activites; while in capitalist Malawi, much of the economy is regulated by the parastatals and owned by either the government or Banda through his various holding companies. Malawi has enjoyed a long period of political stabilty since Independence; during this time Zimbabwe suffered sanctions with the Unilateral Declaration of Independence (UDI), the war for Independence and ethnic divisions and civil strife since 1980.

A final difference between the two countries is that the small farmers of Malawi seem to be significantly poorer than those of Zimbabwe by a number of standards, including Physical Quality of Life indicators (See chart attached). Explanations include the fact that Malawi is a poorer, less urbanized country and has not invested so heavily in education and health since Independence, nor did it inherit the same health and education infrastructure from colonial times.

E: Conclusions:

1. Role of U.S. policy dialogue

In Zimbabwe, U.S. AID staff participated in dialogue with Zimbabwean officials about agricultural policies and programs from Independence. The U.S. voice was one of many considered along with other domestic interest groups, such as the Commercial Farmers Union, and other donors, such as the UK and the World Bank. According to one U.S. official who participated in these discussions, U.S. policy recommendations were in general consistent with what the government was doing or said it wanted to do (Winter, personal communication, 2/5/87). For example, the U.S. advocated incentive prices for small farmers. While the U.S. did not exercise conditionality over Zimbabwean agricultural policies, it did help effect marginal but significant changes, such as the inclusion of non-traditional crops (sorghum and millets) in the official pricing and marketing programs. With the freeze on allocation of new US aid funds in mid 1986 (AID continues to allocate local currency returned from prior projects), the U.S. is a less active participant in discussions with Zimbabwean officials than before.

In Malawi, the U.S., the largest bilateral donor, took a more active role. For example, AID negotiated with the government about fertilizer issues and then provided funding, together with the World Bank, to help the government implement the agreed phased withdrawal of fertilizer subsidies beginning in 1985. However, economic pressures were also leading the government to the same conclusion, and the level of fertilizer subsidies has been reduced to 22%, a reduction larger than agreed upon.

2. Sustainability

Growing surpluses of maize, sorghum and other crops challenge the economic sustainability of current official agricultural policies. For example, Zimbabwe's maize production reached record levels of almost three million metric tons in 1985, double the level of domestic consumption. Good harvests in early 1986 (estimated at 15% lower than 1985) and 1987 (predicted as bumper, but less than 1985) are increasing the large stocks already in storage. As a result, Zimbabwe recently announced a two-tiered pricing scheme designed to limit significantly maize production by commercial farmers. Producers will receive a 55% reduction in price on maize sales in excess of a predetermined amount for 1987-88 (Rohrbach, 1986). Commercial farmers are being encouraged to replace maize with soybeans, a high value crop. A different approach will be needed in Malawi, where smallholders produce the vast majority of maize.

The current surpluses of maize and sorghum, given the region's vulnerability to drought, provide an opportunity to implement national and regional food reserve plans. Within SADCC recent discussions about regional food security include increasing food reserves in Botswana using Zimbabwean maize. Unlike other SADCC countries, Botswana is capable of purchasing food grains. Zimbabwe's "triangular trade" deals with the World Food Council and USAID to export surplus maize to a maize deficit country in return for wheat make better use of scarce transport and foreign currency than traditional food aid (Blackie, 1986). During 1983/84 AID gave wheat to Zimbabwe in exchange for its giving maize to Zambia; Japan engaged in triangular trade with Zimbabwe and Zambia in 1986.

A number of measures in addition to pricing policies can be used to encourage farmers to diversify. A careful analysis of constraints and incentives to production of each crop by different kinds of producers in various agroecological regions, such as that by the MSU team at the University of Zimbabwe on groundnut production, can provide direction for policymakers (Makombe, Bernsten and Rohrbach, 1986). These researchers found that an unanticipated consequence of the increase in maize production has been a decline in the area planted in groundnuts (a decline of 63% since 1975/76). Since groundnuts provide the most concentrated energy and protein source in communal areas, such a decline threatens the nutrition of communal households. The study of two communal areas revealed that the groundnut technical package AGRITEX recommended to communal farmers was basically the same package recommended for commercial farmers, and while it doubled yields, there was no economic reason for communal farmers to adopt it. Inputs, credit and technical advice were not available for groundnut production. While recently communal groundnut production has increased somewhat, the authors conclude that institutional and technical constraints may be more important than price policy in promoting future increases.

In a related study of factors underlying the growth of maize production in the same two communal areas in Zimbabwe (one in a high rainfall area and the other in a low rainfall area), the authors conclude that the recent rate of growth in communal maize production will be difficult to sustain (Rohrbach, 1986). Nearly half of the increase in production since 1974 came from an increase in the area planted, especially in 1980-1982 with the return of refugees from the war. Tighter restrictions against the opening of lands in previously designated grazing areas will limit expansion of area planted. Future increases will have to come from increased yields, especially from the less well endowed areas and households.

However, maintaining current levels of maize production will result in growing surpluses on a national level, increased financial concerns regarding the marketing and credit parastatals, and increased environmental strain from continuous cropping, especially on marginal lands.

3. Replicability

A tentative conclusion is that increasing aggregate agricultural production and marketing by the small farmer sector is possible for other subsaharan African countries. Most of the persons interviewed for this report stressed the historical and ecological uniqueness of Zimbabwe and Malawi and questioned replicability on that basis. Yet the fact that the two governments implemented similar incentives and programs that had similar impacts despite diverse environmental and historical contexts and leadership supports the conclusion that an increase in agricultural production can be achieved in other African countries over the long-term by employing similar means.

In the effort to extend success, valuable lessons can be drawn from a study of Zimbabwe and Malawi. Maize production comprised a key basis of success in these two countries, in large part because of the availability of environmentally adapted technological packages resulting from decades of local research that also were made profitable for some communal farmers through a comprehensive set institutional programs, including expanding transportation and marketing infrastructure, and policies. Other African countries with areas suitable for maize production may consider adapting some of the technological packages, policies and programs used by Zimbabwe and Malawi. Clearly, political will must also be manifested in public investment in agriculture and each particular policy, program and activity appropriately applied (re-created) in each country. Throughout Africa, technological packages for other crops are being tested, but often under resource conditions of the more well endowed farmers.

The success of Zimbabwe and Malawi on the national level also needs to be replicated internally, in less well endowed areas and with low resource households, to better distribute the benefits. In addition, their success with maize needs to be extended to other crops and livestock to increase sustainability by diversifying production and to improve rural diets and income.

4. Equity

A fundamental question is whether these cases of increased agricultural production represent successful examples of rural development, according to the goals of development outlined in the OTA Statement of Work, and whether they should be replicated. While the two countries achieved the goal of food security on an aggregate, national basis, they have not achieved this goal on the individual household or regional levels. In addition, a case can be made that the new technologies and price incentives increased rural inequities and impoverished further those not able to take full advantage of all the improvements.

In Malawi while grain is sold to urban and international markets, rural meal frequency is only 1.6 meals per day (Spring, 1986b). A survey in 1981 showed that over 50% of pre-school children are chronically malnourished (Donnelly-Roark, 1986). The prevalence of malnutrition is reflected in Malawi's high infant mortality rates (151/1000 in rural areas; 74/1000 in urban areas). According to UNICEF, Malawi has the fourth highest infant mortality rate in the world (Mtawali, 1986). Ironically, some of the districts with the severest malnutrition are those with agricultural development projects funded since the late 1960s. For example, one study focusing on the household level revealed that residents in the area covered by the Lilongwe Rural Development Project, begun by the World Bank in 1968 and evaluated positively several times as achieving its objectives, evaluate it differently than the funders. Only 40% of all households believe there is more food, and 54% say they have more income as a result of the project. Another 40% (including many female-headed households) believe there is less food, and 44% say they have less income since the project began (Spring, 1986a). Much data shows increasing rural inequities associated with type of household in Malawi.

Increasing rural inequities are also reflected in the fact that adoption rates of improved inputs by communal farmers differ significantly by region. In Zimbabwe, a comparison of rates of adoption of new technologies since 1970 in two communal areas, showed that by 1985 in the high potential area (representative of 5% of communal land) nearly all farmers used improved seed and fertilizer and over 75% insecticide; in the low potential areas (comparable to 45% of communal land) nearly all used improved seed, but the use of other inputs was negligible before 1984, with less than 20% using fertilizer in 1985 (Makombe, 1986. See Rohrback, 1986 for reasons for the difference.) In addition, less than a quarter of all communal farmers sell maize to the GMB and nearly 60% of maize deliveries were expected to come from only 15 of the 164 communal areas in 1986. AFC loans reached about one tenth of these farmers; most use little or no fertilizer. The conclusion of the researchers is that recent changes have favored producers who are better endowed and specialized assistance may be required to aid communal farmers with more severe resource constraints (Rohrbach, 1985).

Rural households with resource constraints are often those with less access to land and labor. The rural landless often work on the large commercial estates, and in Zimbabwe the highest levels of rural malnutrition are found among agricultural workers on the large commercial farms (Riddell, personal communication, 2/11/87). One study showed that it was the farmers with smaller acreage and smaller household size who were not using hybrid seed, fertilizer and credit in Malawi (Cloud, personal communication, 12/12/86). High proportions of these farmers were women. It was not clear to the researchers whether the principal constraint to their increased production, aside from discrimination in access to resources, was land or labor. When land is a constraint, improved varieties, intercropping and attention to small-scale integrated crop and livestock systems would help. When labor is a constraint, better tools and relief from tasks such as carrying water, seeking firewood and grinding maize would help.

While some maintain that scarce resources should be targetted to those who can best utilize them (i.e., those who can afford the risk), others recommend adjusting the technological packages to fit low resource farmers. For example, the Women in Agricultural Development Project carried out in Malawi beginning in 1981, which devised distinct credit and technological packages for high resource and low resource farm households (female headed households were concentrated in the latter category), showed that mini-technical packages (for .5 acre) of seed and fertilizer coupled with non-standard credit and extension programs could work. The low-resource farmers in the project went from food deficient to food self-sufficient; some of the women even began paying back their loans from the sale of beer and crafts prior to the harvest (Spring, 1986c). Other project activites demonstrated ways to train extension agents to deal successfully with low-resource, female farmers to improve their agricultural production and diets (eg., through soybeans).

Another option is to develop ways to use the surplus to provide assistance to those threatened by chronic or transitory food shortages. In response to the increased awareness of the extent of malnutrition in Malawi, a proposed study would first identify the most threatened groups and then study which of several measures to target them would be most effective. Among these measures are: feeding programs for vulnerable groups (eg. children, pregnant mothers, the disabled), food for work, school meals, provision of free inputs or subsidizing inputs, and subsidizing sales of a food primarily eaten by the poor (Mtawali, 1986). This approach has worked in Zimbabwe. A recent study of child welfare in Zimbabwe showed the efficacy of government and aid supported feeding and health programs (Davies and Sanders, 1987). Despite drought, recession and stabilization policies (which removed consumer food subsidies) between 1982 and 1984, there has been a sharp improvement in child mortality. While there has been an erosion in real incomes, relatively high levels of undernutrition have remained static or slightly improved due to drought relief feeding programs and the provision of meals at some schools.

In any case, the traditional production systems are neither sustainable nor adequate given population increases and other changes. The challenge for the future is to devise some significant modifications in the agricultural policies and technologies promoted by Zimbabwe and Malawi since Independence, often at the urging of donors. Alternatives such as those mentioned above would more nearly attain development goals of increasing the quality of life for all, reducing vulnerability, improving indigenous systems, ensuring environmental and economic sustainability while also improving the quantity and quality of agricultural production.

SOCIAL AND ECONOMIC INDICATORS: MALAWI AND ZIMBABWE

	Malawi		Zimbabwe	
Population (millions, 1984)	6.8		8.1	
Area (thousands of square km)	118		391	
Per capita GNP (1984)	180	(110)[1]	760	(430)
Per capita GNP growth rate (1965-1984)	1.7		1.5	
Annual rate of inflation (1973-1984)	9.4		11.4	
Life expectancy at birth (years, 1984)	45	(41)	57	(52)
Annual growth rate: agriculture (1973-1984)	2.5		1.1	
Percent of GDP from agriculture (1984)	37		14	
Percent of GDP from services (1984)	45		46	
Percent of GDP to private consumption (1984)	67		72	
Percent of GDP to export (1984)	27		22	
Value added in agriculture (million $, 1984)	427		823	
Cereal imports (1000s metric tons, 1984)	20		334	
Food aid (1000s metric tons, 1984)	3		76	
Fertilizer consumption (100s grms/arable·ha)	100		69	
Index of per capita food production (in 1982-84, when 1974-76 = 100)	100		69	
Per capita offical development assistance received ($, 1984)	23.2		36.7	
Percent of govn't expenditure on: defense	6.2		18.3	
education (1983)	13.4		21.5	
health	6.8		6.1	
Average annual population growth rate (1973-1984)	3.1		3.2	
Percent of married women of childbearing age using contraceptives (1983)	1		27	
Infant mortality rate (under age one, 1984)	158	(148)	77	(122)
Population per physican (1981)	52,960		6650	
Per capita daily calorie supply (as percent of requirement, 1983)	95		82	
No. enrolled in primary school as % of age group (1983) total	63		131	
male	73		136	
female	52		127	
No. enrolled in secondary school as % of age group (1983)	5		39	
No. enrolled in higher education as % of age 20-24 (1983)	.		3	
Percent of labor force in agriculture (1980)	83		53	
Urban population as % of total (1984)	12		27	
Literacy (% of adults)*	25	(22)	69	(25-30)
PQLI (1981)*	29		64	

Sources: The World Bank, The World Development Report 1986 (New York: Oxford University Press, 1986). * Sewell, John W., Feinberg, R.E. and Kallab, V., U.S. Foreign Policy and the Third World (New Brunswick, NJ: Transaction Books, 1985). The PQLI (life expectancy, literacy, infant mortality) average for Africa is 46. Average Sub-Saharan Africa per capita GNP is $436, life expectancy, 49; literacy rate, 41; infant mortality rate, 117/1000; and primary school enrollment rate, 79 (Robert S. McNamara, The Challenges for Sub-Saharan Africa, Washington, DC, Nov. 1, 1985).

[1] Numbers in parentheses refer to the mid 1970s. Source: Hansen, Roger D. The U.S. and World Development Agenda for Action 1976 (New York: Praeger, 1976).

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INTERVIEW QUESTIONS

1. Zimbabwe and Malawi are often cited as success stories when referring to increased agricultural production of food crops by small farmers in Africa. Do you agree that they are success stories? What are your criteria for success?

Who do you include in the category of small farmers (acreage, income, technology-based definition)? Is this definition the same for the rest of Africa? Is it the same as OTA's definition of low-resource agriculturalists?

How much consensus is there in Zimbabwe or Malawi about the extent of success?

2. What are the most important reasons for increased food production in the communal lands of Zimbabwe or in Malawi? (List in priority order.)

a. What are the major technological factors associated with the increase?

b. What are the major policy factors? (re: inputs, credit, marketing, pricing.)

c. What are the major institutional factors? (eg., programs of the agricultural research, extension and training institutions and those of the donors)

d. What are some other important elements to account for increased food production?

3. Is the increased production sustainable over time? (both environmentally sustainable and in terms of ability to market surpluses)

4. What are some of the negatives, qualifications or limitations to the success?

5. What are the similarities and differences between the two countries' experiences?

6. Are there limitations to replication of the factors associated with increased production in Zimbabwe and/or Malawi in other African countries?

7. Who are the best sources of information on this topic? (name, organization, phone)

What are the best written sources of information?

FINAL DRAFT

LOW-RESOURCE AGRICULTURE IN AFRICA

Government Assisted Land Settlement: Status and Potential in African Low-Resource Agriculture

by

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FINAL DRAFT

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SUMMARY

a. In Africa today, there are a growing number of low resource agriculturalists seeking land at the periphery of established cultivation zones. The present paper argues that the settlement of this land poses planning problems not covered by existing models for the development of low resource agriculture.

b. Over 75 percent of new lands settlement can be classified as spontaneous or non-government assisted. In the past, the spontaneous occupation of new land has generally resulted in the reproduction of low resource agricultural systems that were environmentally destructive at higher population densities. Previous attempts to control frontier expansion through government sponsored planned settlements, have been expensive and fraught with a variety of technical and administrative problems. Moreover, these capital-intensive projects have typically absorbed only a small portion of the settlers actually moving into the areas being colonized. In view of the inadequacy of earlier models for high resource, government sponsored planned settlement, there is a critical need to develop new planning models to facilitate the development of low resource agriculture in areas being settled spontaneously. It is a development concept that is referred to in the literature as "assisted" or "directed" spontaneous settlement and is considered to occupy a middle ground between the more extreme ideal types of new lands settlement that is either completely: (a) "planned" (e.g. government sponsored) or (b) "spontaneous."

c. Although the concept of "assisted new lands settlement" has been discussed since the mid-1970s, there are only a few cases where it has actually been tried. Instead, what we find are projects in which the original model for planned settlement was unsuccessful and was only modified to include spontaneous settlement at a later date. Similarly, the development literature on new lands settlement continues to focus on the need to improve policy planning in areas of sponsored settlements. A major exception to this tendency to focus on government sponsored new land settlement at the expense of the numerically dominant spontaneous new lands settlement taking place in most areas of Africa today, is the November 1985 conference on spontaneous rural settlement organized by the United Nations Centre for Human Settlements (Habitat) in Nairobi, Kenya.

d. Past experiences with government-sponsored, planned, spontaneous and assisted settlement provide planning guidelines for areas of new lands settlement. Priority areas for intervention include agency assistance with the clarification of tenure issues and the promotion of marketing, transportation, commercialization and social services to incorporate new settlements into national and regional networks. Planned settlements may be used to provide regional service centers and development "beachheads." Specific interventions that are practicable depend on the pre-existing level of infrastructure, economic and social services in a region, as well as whether or not an intervention is begun early or late in the settlement process, and the political commitment of the national government to new lands settlement versus other areas of development assistance.

e. In view of the projected cuts in U.S. assistance to Africa, this report recommends that U.S. development assistance should focus on the redirection and reinforcement of the existing efforts by USAID, African national and multilateral development agencies to work with new lands settlement. Specific areas proposed for intervention are three. First, it is suggested that the US should whenever possible provide financial support and guidance to national governments that are attempting to develop a model of "assisted" new lands settlement in their areas being colonized spontaneously.

f. Second, there is a strong need to ensure that the results of development planning in areas of new lands settlement feed back into the modification of existing and design of new development planning models through the reinforcement of existing U.S., multilateral and national research and documentation efforts. Third, there is a strong sense that the development of national and international planning could benefit from the same sort of targeted US support for international networking for publication and research that gave impetus to the Farming Systems movement in the late 1970s and early 1980s.

I. INTRODUCTION

1. The recently completed Land Resources for the Future Project of the United Nations Food and Agricultural Organization (FAO) (FAO 1982a, 1984a) places the area of underutilized and potentially arable rainfed land in Africa at over four times the presently cultivated area (800 million versus 185 million hectares) (FAO 1984a:21; Higgins and Kassam 1984). The utilization of this land has usually been constrained by adverse factors such as disease, isolation from major markets, lack of potable water and low levels of production technology. With the advent of new disease control methods, production techniques, transportation and communication networks, some of these earlier constraints to land settlement are being removed. Moreover, high rates of population growth and the lack of agricultural and non-agricultural opportunities in densely settled rural areas, provide an additional "push" for new lands settlement at the periphery of established cultivation zones.

2. There is a critical need, therefore, for policy planners concerned with the status and potential of African low-resource agriculture to be concerned with development planning models for these "new" areas being settled. Yet the development of Africa's "new" lands[1] presents a host of planning problems not found in established cultivation zones. Chief among these are the physical isolation of the regions from major population centers, the reproduction of traditional extensive cultivation techniques

by spontaneous migrants, and the lack of pre-existing cropping systems on which to base agricultural recommendations.

3. This position paper provides a general review of new lands settlement activities and planning issues for Sub-Saharan Africa. The paper is divided into three sections. The first section describes the estimated potential for new lands settlement and the major categories of new lands settlement that are actually taking place. The point is raised that to date the development literature on new lands settlement has focused on the design, implementation and evaluation of government-sponsored planned settlement schemes (Scudder 1981a, 1981b, 1984, 1985a, 1985b, 1985c; Chambers 1979; Moris 1988; Nelson 1973; van Raay and Hilhorst 1981; Goering 1978; Takes 1975; Christodoulou 1965; Lewis 1963; Weitz, Pelley and Appelebaum 1978). With a few notable exceptions, however, the historic record for both capital intensive and less capital intensive planned settlements in Sub-Saharan Africa has been very poor. Even the simplest projects have involved substantial investments but have failed to meet their goals of increased production and employment (Hilton 1959; Mellor 1966; De Wilde et al. 1967b; Chambers 1969; Dettwyler 1979; Goering 1978; Scudder 1984, 1985b; Weitz, Pelley and Applebaum 1978; Van Raay and Hilhorst 1981). Projects have been criticized for their high costs in terms of direct investment ($6,460 US per beneficiary family in non-irrigated and $14,000 US in irrigated settlement programs funded by the World Bank from 1962 to 1975) (Goering 1978) and the resulting loss of opportunities to invest in other types of development planning.

It has frequently been concluded that the same investment of capital and resources in the development of low resource agriculture in an established cultivation zone could have provided employment for and increased the living standards of a much larger number of people (Mellor 1966; Moris 1968; Goering 1978).

4. The paper argues, however, that despite the negative record of government sponsored new lands settlement in Africa in the past, the central fact of new lands settlement continues to be an issue. The current situation is not one in which governments must opt for a development strategy based exclusively on either intensification or extensification of agricultural production. Both processes are occurring spontaneously--not always in the same region but almost always in the same country in varying forms. New lands settlement _is_ taking place in Sub-Saharan Africa and _is_ likely to continue at present or accelerated rates. What is at issue in this document, is not the central fact of new lands settlement in Sub-Saharan Africa nor the need for any balanced plan for U.S. development assistance for Africa to at least consider it. Instead the paper provides a descriptive synthesis of what is a vast, not easily accessed, and far-flung literature, much of it "grey" literature that exists only in mimeographed agency reports. The report focuses on a descriptive account of the similarities and dissimilarities between the different types of new lands settlement taking place in Africa today and an assessment of policy options for the development of low resource agriculture in these areas. These are topics on

which the national and international literature is growing, but for which even the most basic descriptive statistics on which to base agricultural development planning are lacking.

5. In view of the well-documented inadequacy of earlier planned setttlement schemes, national planners should focus their attention on the development of low resource agriculture in the areas being settled spontaneously. The second section provides a list of planning guidelines for this type of "assisted" spontaneous new lands settlement. More concrete suggestions for U.S. and U.S.-related multilateral development assistance are discussed in Section Three.

A. FAO Estimates of New Lands Settlement Potential

6. The FAO Land Resources for the Future Project calculates that if Africa's "underutilized" lands were used in their entirity for food production, the continent could produce food sufficient for three times the estimated population in 1975 and one and a half times the projected population for the year 2000 at low levels of inputs (Appendix I, Table 1).[2] A low level of inputs is defined as "using no fertilizers, pesticides or improved seeds and no long-term conservation measures--equivalent to subsistence farming" (FAO 1984a:x). The FAO study estimates that at intermediate levels of inputs, defined as "with some fertilizers, pesticides and improved seeds, conservation measures and improved cropping patterns on half the land," the continent would be capable of feeding more than five times the projected year 2000 populations (*ibid*.) (Table 1).

7. These aggregated results, however, involve the extreme

Table 1. African Countries on FAO Critical List in Terms of Potential Population Supporting Capacity (PPSC), 1975 Status and Projections to 2000

	1975 Status	Projections to 2000
Number of Countries Surveyed	51	----
Total Population in Millions	380	780
Number of Critical Countries, population affected and % of total regional population		
pop.	188	466
pop.% tot.	50	60
pop.	25.5	110
pop.% tot.	7	14
pop.	0.4	1
pop.% tot.	0.1	1.4

Source: P. Harrison, "A New Framework for the Food Security Equation," *Ceres*, 98:25-32.

assumption of free movements of surplus production throughout the continent (*ibid*.). Moreover, Africa's "potentially arable but underutilized" land reserves are very unevenly distributed with central African countries favorably placed while many countries in North Africa, the Sahel and East Africa are already using a high proportion of their potentially cultivable land (FAO 1984a).

8. For example, the land scarce country Kenya had an estimated population density of 0.24 persons/ha in 1975. Its potential population supporting capacity at a low level of inputs was estimated to be only 0.065 persons/ha. to give a PPSC (ratio)[3] of 0.65/0.24=0.27 (Column 4, Table 2). (A PPSC ratio of 1.0 suggests the country's capacity to maintain food self-sufficiency if all the "potentially arable land" were placed in food production at a given level of inputs.) On the other hand, the "land moderately abundant" country Ghana (See Table 2, Appendix I) had a greater

Table 2. African Countries Ranked as Critical in Terms of Potential Population Supporting Capacity (PPSC)

Location	Land[1] area (mill. ha)	Year[2] 1975 population (mill.)	Year 1975 population density	..... Year 1975 ratios			Year[3] 2000 population (mill.)	Year 2000 population density	..... Year 2000 ratios		
				Low inputs	Intermed. inputs	High inputs			Low inputs	Intermed. inputs	High inputs
Cape Verde	0.4	0.3	0.74	*<0.01	*<0.01	*0.02	0.4	1.06	*<0.01	*<0.01	*<0.01
Western Sahara	26.6	0.1	<0.01	*<0.01	*<0.01	*<0.01	0.2	<0.01	*<0.01	*<0.01	*<0.01
Rwanda	2.5	4.1	1.62	*0.18	*0.68	1.99	9.3	3.53	*0.08	*0.38	*0.86
Totals for Class 1	29.6	4.5	0.15	*0.16	*0.60	1.81	9.7	0.33	*0.08	*0.38	*0.79
Burundi	2.6	3.9	1.52	*0.22	1.17	2.66	7.8	3.03	*0.10	*0.54	1.23
Niger	126.1	4.6	0.04	*0.17	*0.56	9.43	9.7	0.08	*0.14	*0.32	4.48
Réunion	0.3	0.5	1.92	*0.20	*1.00	3.33	0.7	2.73	*0.14	*0.67	2.23
Kenya	57.0	13.5	0.24	*0.27	*0.90	3.90	37.6	0.59	*0.17	*0.40	51.7
Lesotho	3.0	1.2	0.39	*0.46	1.15	2.64	2.1	0.69	*0.26	*0.65	1.48
Comoros	0.2	0.3	1.40	*0.42	1.78	3.46	0.6	2.07	*0.27	1.16	2.26
Algeria	237.8	15.7	0.07	*0.45	1.57	2.90	38.0	0.15	*0.33	*0.79	1.37
Somalia	63.6	3.2	0.05	*0.40	*0.75	2.18	7.2	0.10	*0.34	*0.51	1.23
Ethiopia	120.8	28.6	0.24	*0.50	2.38	10.73	56.3	0.46	*0.36	1.28	5.55
Nigeria	91.2	66.7	0.72	*0.82	3.32	11.27	150.0	1.63	*0.37	1.39	4.71
Namibia	82.3	0.9	<0.01	*0.84	2.40	38.56	1.7	0.02	*0.43	1.24	18.82
Uganda	20.0	11.3	0.57	*0.97	3.86	13.60	25.4	1.23	*0.45	1.75	6.08
Mauritania	103.1	1.4	<0.01	*0.35	1.42	5.92	2.9	0.03	*0.46	*0.97	3.08
Mauritius	0.2	0.9	4.86	*0.71	1.27	1.01	1.3	7.09	*0.47	*0.86	*0.79
Totals for Class 2	906.1	151.8	0.17	*0.65	2.53	9.29	331.4	0.36	*0.34	1.15	4.12
Upper Volta	27.1	6.1	0.22	*0.90	4.38	22.48	11.8	0.44	*0.51	2.28	11.46
Malawi	8.8	5.2	0.59	1.27	4.63	10.88	12.0	1.35	*0.81	2.01	4.62
Botswana	60.0	0.7	<0.01	1.27	6.67	64.61	1.4	0.02	*0.83	3.32	32.13
Tunisia	16.3	5.6	0.34	*0.46	1.12	2.14	9.6	0.59	*0.70	1.06	1.62
Morocco	44.4	17.3	0.39	*0.73	1.55	2.69	38.1	0.81	*0.78	1.15	1.65
Senegal	19.6	5.0	0.25	*0.89	3.89	21.00	9.7	0.49	*0.79	2.31	10.93
Togo	5.6	2.3	0.42	1.69	7.92	22.47	5.0	0.90	*0.82	3.65	10.16
Sierra Leone	7.2	3.0	0.42	1.69	9.14	16.43	6.1	0.84	*0.89	4.52	8.12
Swaziland	1.7	0.5	0.28	1.75	7.40	13.51	0.9	0.54	*0.89	3.77	6.88
Mali	124.0	5.8	0.05	1.34	6.04	29.44	11.6	0.09	*0.90	3.21	14.73
Benin	11.3	3.0	0.27	2.08	9.34	33.60	6.5	0.58	*0.95	4.28	15.40
Zimbabwe	38.6	6.2	0.16	1.65	7.80	29.88	14.7	0.38	*0.96	3.64	13.21
Totals for Class 3	364.5	60.9	0.17	1.10	4.44	15.98	124.7	0.34	*0.78	2.38	7.88
Ghana	22.8	10.0	0.44	2.04	8.86	24.40	21.2	0.94	1.03	4.19	11.25
Tanzania	88.9	15.4	0.17	2.29	9.37	32.55	34.0	0.38	1.12	4.30	14.72
Libya	175.9	2.4	<0.01	*0.74	1.51	2.71	5.8	0.03	1.20	1.47	1.89
Gambia	1.1	0.5	0.48	1.49	6.44	21.47	1.0	0.90	1.21	3.83	11.10
Egypt	98.1	38.9	0.37	1.67	1.67	1.67	64.7	0.66	1.74	1.74	1.74
Chad	127.5	4.3	0.03	3.15	16.10	70.80	7.1	0.06	1.78	8.77	38.30
São Tomé and Principe	0.1	0.1	0.87	1.98	7.21	9.71	0.1	0.96	1.79	6.52	8.79
Guinea	24.6	4.4	0.18	3.39	12.22	39.54	8.2	0.33	1.82	6.54	21.16
Totals for Class 4	539.8	74.1	0.14	2.00	5.75	17.64	142.8	0.26	1.47	3.39	9.47
Mozambique	78.3	9.2	0.12	4.14	17.01	58.07	18.7	0.23	2.17	8.65	29.33
Sudan	250.5	16.0	0.06	3.71	14.91	64.72	31.3	0.12	2.58	8.30	33.73
Guinea-Bissau	3.6	0.5	0.15	4.40	17.23	55.97	0.8	0.23	2.72	10.65	34.62
Liberia	11.1	1.6	0.14	6.03	30.35	80.52	3.5	0.31	2.77	13.62	38.14
Ivory Coast	31.5	6.7	0.21	7.15	24.56	55.57	13.9	0.44	3.41	11.65	26.98
Madagascar	58.0	7.7	0.13	6.29	25.03	72.88	15.2	0.26	3.67	12.97	37.03
Angola	123.9	6.2	0.05	8.57	45.01	150.14	12.4	0.09	4.51	23.52	78.98
Zambia	74.3	4.8	0.06	10.17	44.88	159.38	11.3	0.14	4.68	20.63	73.31
Totals for Class 5	631.2	52.7	0.08	5.84	24.74	82.65	105.0	0.17	3.21	12.60	41.55
Cameroon, Rep. of	47.2	7.5	0.16	10.25	27.93	81.81	13.0	0.28	5.89	16.03	46.92
Zaire	232.2	24.5	0.11	11.91	52.27	117.83	46.2	0.20	6.29	27.77	62.26
Eq. Guinea	2.8	0.3	0.12	12.08	35.65	104.44	0.6	0.20	6.93	20.44	59.67
Totals for Class 6	282.2	32.3	0.11	11.53	46.46	109.35	59.7	0.21	6.21	25.15	58.90
Centr. African Rep.	62.3	2.0	0.03	22.59	106.68	301.12	3.9	0.06	12.45	58.97	105.94
Congo	34.2	1.4	0.04	29.90	120.11	299.88	2.4	0.07	16.44	65.78	164.02
Gabon	26.2	0.5	0.02	80.19	243.44	538.40	0.8	0.03	55.53	168.58	372.84
Totals for Class 7	122.7	3.9	0.03	32.93	129.86	332.73	6.8	0.06	18.65	73.52	188.07
Africa totals	2 878.1	380.2	0.13	2.95	11.55	33.85	780.1	0.27	1.61	5.75	16.50

[1] Land areas derived from FAO/Unesco Soil Map and exclude areas mapped as bodies of water. - [2] UN data for 1975, millions of persons. UN, 1979a. - [3] Projected UN data for 2000, millions of persons. Medium variant. UN, 1979a. - * Asterisk indicates potential population-supporting capacity less than present and/or projected population. Original data to three decimal places. Apparent discrepancies in some totals due to rounding off. This table has been sorted according to increasing ratios, by country, related to low-input year 2000 ratios.

Source: FAO (1984). Land, Food and People. Rome: FAO. Pg. 82-83.

population density in 1975 of 0.44 persons/ha, but its land resources were considered to have a population supporting capacity of 0.90 persons/ha even at a low level of input use; Ghana's PPSC (ratio) at low input levels is 0.90/0.44=2.04 (Column 4, Table 2). This means that presuming a free movement of surplus production within the country and the use of all "suitable" land to grow food crops, Ghana's land resources could, at low input levels, support more than two times its 1975 population (FAO 1982a: 65).

9. An analysis by country, however, is not encouraging. Based on FAO estimates of "potential population supporting capacity" (PPSC), 22 of the 51 countries on the continent were considered to be "critical" in 1975 with a population of 188 million (Table 1). Use of intermediate inputs brought down the number of critical countries to seven, while high inputs left only two critical.

10. Yet in spite of the easily recognized methodological weaknesses of the FAO Report (notably the extreme assumptions of free movements of surplus production between and within countries and the use of all potentially arable land for food production, as well as weak data on land quality and population) the policy implications of the FAO Report for Sub-Saharan Africa are considerable. Most importantly, the study underlines the central importance of "new" land availablity in determing the range of policy options that a particular country has. The FAO report suggests that in countries which are critical with a low

Table 3. Land Use for the African Continent, 1974-76, 1979, 1981 and 1983 and as % of 1974-75 Baseline.

	1974-75	1979		1981		1983	
Type Land	1000 ha	1000 ha	%inc 1974-75	1000 ha	%inc 1974-75	1000 ha	%inc 1974-75
Total Area	2,384,322	---	---	---	---	---	---
Land Area	2,331,260	2,331,247	---	2,331,247	---	2,331,247	---
Arable & Perm Crp.	145,622	149,804	2.9%	151,533	4%	152,423	4.7%
Perm.Past.	538,758	545,149	1.2%	548,140	1.7%	550,442	2.2%
Forest& Woodland	1,040,174	1,018,424	-2.1%	1,008,474	-3.1%	998,523	-4.2%
Other Land	283,614	288,022	---	289,800	---	295,234	---
Irrigated	7,791	7,876	1%	8,070	3.6%	8,227	5.6%

Notes on Land Type: Total Area refers to the total area of the country, including area under inland water bodies. Land area refers to total area excluding area under inland water bodies including rivers and lakes. Arable land refers to land under temporary crops, land temporarily fallow. Land under permanent crops refers to land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest such as cocoa, coffee and rubber as well as fruit and nut trees. Permanent meadows and pastures refers to land used permanently (5 years or more) for herbaceous forage crops. Forests and woodlands refers to land under natural or planted stands of trees and includes land from which forests have been cleared but that will be reforested in the foreseeable future. Other land includes unused but potentially productive land, built-on areas and any other land not specifically listed in under other categories.

Notes on African Countries: Tables bring together country data for 42 African countries including Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Egypt, Ethiopia, Gambia, Ghana, Guinea, Ivory Coast, Kenya, Liberia, Libya. Madagascar. Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe.

Source: Food and Agriculture Production Yearbook, 1985, Rome: FAO, Pg. 57.

level of inputs (Table 2, Appendix 1 and countries indicated with asterisk in Column 4 of Table 2), the opportunity to increase production through expanding the total area cultivated is not always possible (Higgins and Kassam 1984:340) and priority should be given to raising input levels (agricultural intensification) and insuring the highest possible use of whatever "new" land there is which can be brought into cultivation. In countries that are not critical with low levels of inputs, there is a wider choice for obtaining increased productivity (ibid.) including the expansion of the total area under cultivation as well as increasing per hectare and per labor unit yields.

B. Statistical Portrait of New Lands Settlement--Present and Future

11. Statistics show a steady increase in the global rate of forest clearance and the total area under cultivation for the African continent (Table 3). Although precise figures are lacking, it is estimated that the largest percentage of the land settlement and forest clearance taking place is spontaneous or non-government assisted (estimated at 75%)[4] (Goering 1978; Scudder 1985; Ovando-Lacroux 1985; Angel 1985; Bharin 1981; Mabogunje 1981).

12. Studies reveal that the movements of spontaneous agricultural settlers "are not random and unplanned, but involve systematic cooperation between the early immigrants and those who follow" (Davis 1979) and generally take place in areas where development has been initiated by others (Bharin 1979; Findley

1981; Wood 1985; Nelson 1985). Highway construction often triggers a land rush to colonize the surrounding areas as in the well known case of the Belem-Brasilia road in Brazil and highway construction in other areas of the Amazon (Schmink and Wood 1984; Becker 1985). Similarly, government investment in planned settlement has almost always attracted an influx of spontaneous settlers that was equal to or in excess of the number of sponsored settlers (Mbithi and Barnes 1975; Nana and Kattenberg 1979; Sawadogo 1979; Salem-Murdock 1984; Velarde 1985; Benoit-Cattin 1979; Diagne 1979; Couty et al. 1979; Hartog 1978).

13. The United Nations Centre for Human Settlements (Habitat) describes three broad categories of spontaneous rural settlement taking place:

(1) Type 1--spontaneous settlement in established areas;

(2) Type 2--spontaneous settlement as an adjunct of planned settlement including the later immigration of non-agricultural entrepreneurs and traders into an area being settled; and

(3) Type 3--spontaneous colonization in an uncolonized new area.

The point is made that all three types of settlement can exist in an area simultaneously and attract agriculturalists for different reasons(Angel 1985).

14. Some idea of the extent of spontaneous colonization in uncolonized new areas (Type 3) can be gotten from the FAO Production Yearbook which publishes annual figures for broad categories of land use based on aerial and landsat photos (Table 3). These figures show an average two year increase of between 3

and 5 percent in arable and permanently cropped land and a steady decrease of about the same magnitude in area classified as forests and woodland (Table 3). Similar figures for forest clearance are cited by environmentalists (Table 4).

15. Accurate statistics in terms of land area and numbers of people affected by spontaneous and planned settlements in established cultivation zones and areas being settled (Types 1 and 2) are more difficult to determine. Some idea of historic patterns of different types of spontaneous new lands settlement can be acquired from historic surveys of population shifts for

Table 4. Clearing of Closed Forests, by Major Forested Region in Sub-Saharan Africa, 1985.

Region	Area of Closed Forest (thousand hectares)	Annual Clearing (thousand hectares)	Change (%)
Coastal W. Africa	13,752	703	-5.1
Zaire Basin	171,540	351	-0.2
East Africa	12,957	105	-0.8
Total	198,249	1,159	-0.6

Source: Worldwatch Institute estimates based on U.N. FAO, Tropical Forest Resources, Forestry Paper 30, Rome: FAO. 1982, In, L. Brown et al., State of the World 1986, N.Y.: W.W. Norton Company, Pg. 182.

different countries (See Case Study of Burkina Faso, Appendix II) as well as figures that document the projected impact of national and international programs for disease control, river basin development and refugee resettlement (Table 5) (also see Figures 1,2,3,4,6,7 in Appendix I). In addition, national governments continue to be attracted to planned settlement schemes as one strategy for introducing an integrated package of complementary land reforms, infrastructure, economic and social services to "new" areas and to achieve special political and social goals (Table 5). Far more difficult to estimate in terms of the land area and number of persons affected, are the actual and projected numbers of spontaneous settlers attracted to "new" areas as a result of government investment in planned settlement schemes, roads and other types of infrastructure (Table 5). Also difficult to calculate are the high rates of spontaneous immigration into registered land areas that is classified as illegal or "squatter" settlement in densely settled countries like Zimbabwe and Kenya--immigration that can be attributed less to the avilability of new settlement opportunities than to the lack of opportunities in rural agricultural and nonagricultural pursuits (Table 5).

C. Special Opportunities and Constraints

16. Yet in spite of wide variation in terms of the causes of spontaneous new lands settlement in Sub-Saharan, certain core characteristics in terms of development opportunities and constraints tend to hold across the different types.

Table 5. Statistical Portrait of the Location, Amount of Land Involved, and Affected Populations of Sample Factors Affecting Agricutural Lands Expansion (DRAFT DO NOT QUOTE)

Source	N. Countries Affected	Area Affected	Projected/Actual Population Impacts (HH=households; p=people)
1. Disease Control			
a. OCP			
1. Phases I & II (1974-1986)	7	764,000 Km^2 (see note below)	Estimated Population Capacity Liberated Area Phases I & II =9.06 Million p
2. Phase III (1986-2000)	12	? (includes Phases I & II as well)	?
b. FAO Coordinated Livestock Trypanosomiasis	13 (tsetse present in 37)	----- 7,000,000 km^2	Settlement Figures not Given. Anticipated increase livestock= 120 million units
2. Refugee Resettlement	13 (to 13 countries in order of refugee to population ratio)	-----	Total: 3,195,600 p Self-settled: 1,917,360 p
3. Irrigation	Continental	3% Land Suitable (most countries under 5%)	-------
a. Large-scale (River Basin Schemes--Anticipated or in Place): Niger River Basin, Juba River Basin, Senegal River Basin, Gambia River Basin, Nigeria (River Basin Development Authorities), Sudan			
b. Small-scale Irrigation	Continental	little information on except in Nigeria	
4. Land Reform & Other			
a. Zimbabwe (reallocation purchased white settlers land)	--	6-7,000,000 ha (6-70,000 km^2 initial purchase)	Anticipated Settlement Planned: 162,000 HH Actual Planned(1985): 35,000 HH Spontaneous (1985): "alarming proportions"
b. Ethiopia			
1. Villasation Program	--	-----	Anticipated Planned Settlement:30 Million p
2. Government Sponsored Drought Relocation	--	-----	Planned Settlement (1985) 600,000 p
c. Kenya Rural "Squatter Settlements"	--	-----	Spontaneous Settlement: "Crisis Proportions"
5. New Lands Settlement in Conjunction with Infrastructure Development			
6. Drought-related Internal Migration			

Special problems may arise to the settlers' inability to chose areas that are fertile or sustainable in drought years (Mbithi and Barnes 1975; Mwagiru 1985). With growing numbers, the settlers may become embroiled in tenure disputes. Since settlements are usually started by small groups of immigrants, community services are usually poor and take a long time to develop (Bharin 1981).

17. In terms of special opportunities, there is a growing body of evidence that spontaneous settlers tend to become "better farmers quicker, at less cost than directed settlers" (Scudder 1981b, 1985b, 1984). Moreover, comparative studies show that in many cases spontaneous settlers came from higher income groups, with better skills and motivations for new lands settlement than sponsored settlers (Eder 1982; Moran 1979, 1981). Where spontaneous settlements include members of the host community, they can provide valuable information to policy makers about the reasons for which an area has remained uninhabited. When spontaneous settlers immigrate from outside the region, they typically acquire land through the pre-existing social mechanisms for doing so (Raison 1981:65; Couty et al. 1979; Nicolai and Lassere 1981). As a result, there is usually less room for the disputed land tenure claims and associated social conflicts that have typically surrounded government sponsored planned settlements.[5]

18. By far the major criticism of spontaneous new lands

settlement throughout the world has been that they tend to reproduce extensive cultivation systems (Bharin 1981; Dollfus 1981; Raison 1979, 1981, 1985; Nicolai and Laserre 1981; Remy 1973, 1975, 1981). At higher population densities, these extensive cultivation methods can give rise to many of the same ecological problems that precipitated immigration in the first place (Mabogunje 1981). The process of environmental degradation may be hastened by the initial choice of unsuitable physical land sites and the effects of drought (Mbithi and Barnes 1975, personal communication with Barnes, June 1986). One of the results of this destructive cycle has been a steady expansion of frontier settlement as population densities increase, soil fertility decreases, and the amount of labor involved in cultivation becomes greater. This expansion of the physical limits of the frontier, gradual increase in population size and subsequent repetition of frontier expansion is frequently portrayed as a series of cyclical phases (Table 3, Appendix I). Van Raay and Hilhorst (1981:iii) conclude:

> In the absence of planning responses and public intervention coherent with distributive policies, land settlement is unlikely to produce more equitable distribution of wealth and income. Moreover, the resource frontier is likely to become an organized and dependent social periphery if the process of regional development is left to take its course.

Moreover, studies show that by itself, unassisted spontaneous settlement is not an effective mechanism for land redistribution since over the years the "vulnerability of small holders causes increasing proportions to sell out to both rural and national elites" (Scudder 1984: 4).

19. Evidence shows that, in the absence of government investments in roads, wells, extension and social services, the disposable income of spontaneous settlers has generally been insufficient to support the development of more productive and less ecologically destructive agricultural systems. The major question then is what form this development assistance should assume?

20. In view of the historic difficulty that African governments have faced in having a significant impact on new lands development through sponsored settlements, the present paper argues for the need to develop cost-effective programs to support and guide spontaneous settlement _if_ "higher returns" (Scudder 1984:4) to government investment in infrastructure and development programs are to be achieved. It is a development concept that is referred to in the literature as "assisted" or "directed" spontaneous settlement (Scudder 1981, 1984, 1985a, 1985b; Brokensha, Horowitz and Scudder 1977; Angel 1985; Lacroux-Ovando 1985; Bharin 1981; Davis 1979). The next section provides background information on alternative policies for assisted settlement and an analysis of contemporary developments taking place.

II. ANALYSIS

A. Why New Lands are being Expanded

21. An important theme in the literature on internal migration and the more specific literature on development planning in areas of high out or in-migration has been the analysis of "push" and "pull" factors that affect immigration decisions. The purpose of these analyses has been to develop predictive models to inform policy makers as to when, where and how different types of immigration will occur (Adepoju 1981; Chapman and Prothero 1985). Studies show that individual migration decisions can seldom be explained in terms of the influence of a single "push" or "pull" factor. Instead there is the interaction of a variety of "push" and "pull" factors that reduce the actual or perceived "costs" of immigration in terms of increased risk to low resource agriculturalists.

22. The relative importance of different push and pull factors varies enormously between regions and in different time periods. For example, the spontaneous settlement of less populated regions has been an established feature of the rotational bush/grass land fallow cultivation systems that characterize low resource agriculture in most areas of Africa (Appendix I, Figure 1).[6] With the imposition of colonial rule, some of the cultural barriers that prevented the expansion of low resource agriculturalists into less populated regions were removed (see Appendix II). Other factors which contributed to the development of new "push" and "pull" factors that affected rural-rural

immigration during the colonial period included dam construction, white settlement (Mwagiru 1985; Mbithi and Barnes 1975) and forced labor. In addition to the reduced constraints on internal immigration and the creation of new "push" factors, there were the creation of new lands development programs to attract or "pull" settlers into a less populated regions. In some cases the eradication of important human and animal disease was also a factor.

23. Since independence, land settlement schemes have been used to redistribute the land formerly held by white settlers in Kenya and Zimbabwe; to provide settlement opportunities for refugees as in Kenya, Sudan and Somalia; to relocate large numbers of people displaced by dam construction in nations like Sudan, Ghana, Zambia, and Nigeria; and to promote a process of "villagisation" or spatial reorganization of rural settlements in Tanzania, Algeria and Ethiopia to reduce the costs to government of providing social services, roads and market facilities. Planned settlement schemes have also been undertaken in response to the double challenge of controlling the spontaneous occupation of new land and promoting national economic growth and development.

24. Although in some cases colonization may be a response to the opening of new land with considerable potential made possible by these sorts of technological and infrastructural breakthroughs, most spontaneous colonization movements represent more clearly the existence of strong constraints upon the range of choices open to rural populations (Lacroux-Ovando 1985; Conde 1978; Coulibaly et al. 1980; Couty et al. 1979; Remy 1973, 1975,

1981; Raison 1985; Ewusi 1985). One result of this has been the relative ease with which it is possible to predict the net outflow of immigration from rural areas where opportunities are more restrictive to areas of greater opportunity (see Appendix II). Migration studies of particular countries describe the characteristics of rural migrants who choose rural as to opposed to urban destinations (Findley 1979).

25. As described earlier, the historic record of both capital intensive and less capital intensive planned settlements in Africa has been disappointing. Many of these problems apply to other types of development planning and can be grouped under the general heading of technical and administrative problems--inadequate technical packages, poor administration, insufficient staff, overly ambitious physical targets and underestimated costs are all cited (Lewis 1964; Christodoulou 1965; Moris 1968; Goering 1978). Others are more specific to planned settlement such as the way that scheme policies toward land tenure, field organization and village layout can affect the economic and social development of new communities (Hammond 1959,1963; Colson 1971; Takes 1975; Moran 1979,1981).

26. There is increasing evidence, however, that many of the earlier economic assessments of government planned settlements were based on premature evaluations. Comparative research shows that most successful projects pass through a series of three to five years stages in terms of settler adjustment, economic performance and regional impact (Chambers 1969, Nelson 1973, Colson 1971; Scudder 1981; Moran 1979).

27. In his summary report of the USAID-supported global evaluation of the development potential of new lands settlement, Scudder (1981, 1984) describes four stages, each with a relatively distinct set of planning problems and opportunities. The distinction between Scudder's third and fourth stage has essentially to do with risk taking. The second "transition" phase refers to the first three to four years during which the settlers are in the early stages of adaptation to scheme policies and the dislocation associated with the physical move (Stage One). The transition phase ends when enough settlers "shift from a conservative stance to a dynamic open ended one, hence initiating a third stage of economic and social development" (Scudder 1981: 2). This usually occurs only after settler security has increased due to the production of sufficient food and the increasing tendency of the settlers to feel more "at home" in their new environment. It is at this third stage that Scudder calls "Economic and Social Development" that one can anticipate the settlers' shift from their earlier emphasis on extensive agriculture, to a more diverse range of investment strategies that are designed to achieve higher levels of labor productivity. A fourth stage, "Handing Over and Incorporation," refers to the final stage in which the administration of scheme activities is handed over to settlers and local governmental (non-project)institutions and a second generation of settlers has taken over leadership roles (Scudder 1984).

28. Unfortunately most evaluations of planned settlements in Africa deal with projects that are still in the initial two

stages during which it is unreasonable to expect rapid increases in production, net income and non-farm employment (Moris 1968; Colson 1971; Nelson 1973; Moran 1979; Scudder 1981b, 1985b; Scudder and Colson 1982). Scudder (1981b:2) concludes that:

> as a result both donors and scholars alike tend to underrate the potential of new lands development to catalyze a process of development both within the settlement region and in the surrounding region.

29. One result of researchers taking a more long-term perspective on the assessment of planned settlement schemes has been to highlight some of the unique opportunities that a well organized planned settlement project can offer. This includes the fact that the fact the ability of these projects to promote regional economic growth and development through the creation of necessary linkages between rural areas, national and local markets, political and administrative institutions (Scudder 1981, 1984, 1985; Van Raay and Hilhorst 1981; Weitz, Pelley and Applebaum 1978).

30. A comparison of the literature on spontaneous and government sponsored settlement, suggests a strong need for experimental programs to work with the spontaneous settlers moving into less populated regions--what Scudder calls "directed spontaneous settlement." The use of the term "directed" refers to the idea of minimal government involvement to provide basic services and infrastructures to the settlers moving in on their own initiative. It is an approach that allows development planners to build on the recognized strengths (entrepreneurial

ability, cash resources, strong community ties, familiarity with the region and/or good relationships with indigenous groups) of spontaneous settlement and to avoid some of the better documented social, ecological and economic problems of unassisted spontaneous new lands settlement. The latter include accelerated rates of environmental degradation, low levels of economic and social services and lack of support for intensive cultivation practices.

31. It is suggested that government programs to work with spontaneous settlement would best serve by restricting their interventions to a few critical areas aimed at ensuring an acceptable level of economic resources and social facilities. Priority areas include interventions in marketing, transportation and commercialization services that promote the integration of new settlements into national and regional markets (Lacroux-Ovando 1985; Angel 1985). One area where government intervention can be especially effective is in the clarification of settler and indigenous land tenure claims (Angel 1985; Okoth-Ogendo 1985). Programs that work with settlers and indigenous inhabitants to improve the overall level of housing, service networks and immediate social facilities are also important (Lacroux-Ovando 1985). Scudder (1984:4) suggests that access roads and potable water may be best provided through a "site and service" approach such as has been successful in a number of low income urban communities in parts of Africa and Latin America. The proposed phases of Tanzania's second national "sites-and-services" project (1977-81) were: site selection;

planning; site clearance and survey; installation of basic infrastructure (roads; water taps; plot allocation; construction of houses; and completion of further infrastructural services (Siebolds and Steinberg 1982:123; Kulaba 1982; Brebnert and Briggs 1982). An attractive alternative is for governments to establish communities of sponsored settlers as "beachheads" (Angel 1985:25) around which spontaneous settlers would be encouraged to take up residence (Scudder 1984:5). Implicit in the argument for mixed spontaneous and sponsored settlement is the notion that (Bharin 1981:141):

> viable communities which attract and incorporate spontaneous migrants are not only less costly, but they are in many ways less risky and certainly more natural than communities that consist only of sponsored migrants. It does not follow, however, that these communities can flourish unsupported and unplanned. Greater support to early migrants and sound planning for those who come later will greatly improve migrant welfare and facilitate the settlement process.

32. B. Principles and Concepts for Assisted Settlement

A comparison of past experiences with spontaneous and sponsored settlements in Sub-Saharan Africa and assisted spontaneous settlements in Asia and Latin America provides a list of guiding principles and concepts for development policy to facilitate low resource agriculture in areas of new lands settlement (for more detailed analyses of planning principles and concepts see Scudder 1981, 1984, 1985, 1986; Van Raay and Hilhorst 1981; and Weitz, Pelley and Applebaum 1978).

1. Principles and Concepts

33. (1) The reasons various areas have remained underutilized are several and include the high incidence of human and animal disease, isolation from main roads and markets, lack of potable water, inappropriate soils for existing levels of technology as well as special historical and cultural factors. The removal of any one constraint is seldom sufficient to bring about the "successful" settlement of a region. Successful settlements are defined as those that "stimulate an ongoing process of integrated area development" (Scudder 1984: 7):

> Essential to this definition are linkages between rural and urban sectors, with agricultural development stimulating the emergence of a hierarchy of service centers as well as manufacturing and industrial development within the region. The word "ongoing" means that the development process must be sustained at least into the second generation.

34. (2) Unless spontaneous settlement is assisted, it tends to be environmentally destructive at higher population densities and to set in motion a pattern of regional underdevelopment relative to established centers that is difficult to reverse at later stages.

35. (3) Government sponsored programs to coordinate the settlement and development of specific regions are not generally considered to be a cost-effective mechanism for promoting frontier development.

36. (4) Some of the demonstrated factors which enhance the success of government sponsored settlements include: productive sites; suitable locations (proximity) and effective physical inter-connections; land development including land clearance;

capable pioneer farmers; security of tenure; off-farm employment opportunities; and selective agro-support (Van Raay and Hilhorst 1981: ii-iii).

37. (5) Directed or assisted settlement in which some government or non-governmental body provides support to spontaneous settlers moving into an area provides a low cost alternative to sponsored settlement for frontier development planning.

38. (6) Alternative forms of assisted settlement include: (a) the installation of basic infrastructure, services and service centers to promote spontaneous immigration to a high potential area and work with settlers once they arrive; and (b) the provision of basic services and infrastructures once settlers have moved in.

39. (7) When possible, assisted settlement should include a mixture of spontaneous and sponsored settlers in which the initial installation of a government sponsored and supervised settlement is used to attract spontaneous settlers to a region and to provide services to the population as it grows.

40. (8) The type of intervention recommended for "assisted" new lands settlement, depends importantly on the period of time at which the intervention is made--i.e. whether settlement activities have just begun or have already been underway for several years--and the pre-existing level of infrastructure and services in a region.

41. (9) One can anticipate rapid changes in the composition, structure, goals, opportunities and constraints of spontaneous

and sponsored settler households that influence their willingness and ability to adopt new types of production technology and organizational forms. Moreover, these changes can be modelled and predicted in order to call attention to the particular planning problems that are associated with different stages of settler adjustment.

42. (10) Regional planning and integrated area development (including both agricultural areas, rural housing and regional planning) are essential for the development of successful assisted development programs and require a longer planning period (15-30 years) than other types of development planning.

43. (11) Effective general and regional planning to assess the full range of constraints to settlement in a region and to design flexible policies and patterns of administrative and intersectoral coordination to promote new lands settlement, requires a wide range of disciplinary perspectives.

44. (12) The agency in charge of land settlement support should preferably be autonomous, with its own budget and with effective coordination links, but tied to the pre-existing structure of sub-national planning units in order to facilitate the final turn over of project specific functions to local agencies and settlers.

45. (13) Land settlement programs should be integrated into more broad-based country land use plans that take advantage of new planning data such as the 1981 FAO study. It is on the basis of demographic data on existing immigration flows and the anticipated redistributive effects of government investment, that

a more broad-based strategy for frontier investment can be decided--for example, whether or not new lands settlement investments should be concentrated into a restricted area along the frontier band or at numerous points and enclaves simultaneously.

46. (14) For new lands settlement to stimulate a process of integrated area development--with a simultaneous evolution of agriculture, services, and industry--settler families must number in the thousands rather than the hundreds (Scudder 1984:8).

47. (15) Lack of integration of the existing population into a land settlement program is bound to have an adverse impact on the project and its potential as an instrument for rural development (Van Raay and Hilhorst 1981:ix).

2. Implications for FSR and Other Small Farm Research and Development Methodologies

48. In general, methodological and theoretical discussions of Farming Systems Research (FSR) emphasize the development of low resource agriculture in established areas (Poats and Fresco 1986; Simmonds 1985; DeWalt 1985; Gilbert, Norman and Winch 1980).[7] There has not, however, been a conscious exclusion of new land settlement as a topic in the farming systems literature, nor can the basic methodology be considered incompatible. In their classic handbook on farming systems methodology, Shaner, Philipp and Schmehl (1981: 43) note that national decision-makers' choice of an FSR target area may be for two basic reasons: (1) to meet the needs of the people living there; or (2) to take advantage of the areas' agricultural potential. They describe an African country's choice of "a sparsely populated region with improvement

potential as a target area [and how this decision was linked to] the national policy to alleviate land pressure on its fertile, but overcrowded highlands" (ibid.:44). The FSR methodology has also been used in areas covered by Indonesia's transmigration program as well as the Senegal River Valley. Hildebrand (1983) describes the use of FSR for the modification and design of an irrigation project.

49. Yet in spite of this recognition in the FSR literature of new lands settlement as a particular type of low resource agriculture that presents special opportunities and constraints, I am unaware of any attempts to link FSR with planning principles from comparative studies of land settlement processes in Africa, Latin America or Asia.

50. One of the central differences between "traditional" farming systems in established areas and new land settlements, concerns the frequent lack of pre-existing cropping systems on which to base policy recommendations. Yet the literature on spontaneous settlement in Africa emphasizes that although the immediate area of a proposed intervention may be unoccupied, it is never unclaimed. FSR directives to start with an multi-disciplinary planning survey would enhance the chance that the needs as well as knowledge of indigenous inhabitants and a wide range of different disciplines including agronomy, soil science, economics, and anthropology would be considered in the project design (personal communication, P. Hildebrand, June 1986). The inclusion of health and environmental scientists in a multi-disciplinary planning process which has traditionally focused on

social and agricultural disciplines, could assist with the identification of potential health and environmental problems (WHO 1986). Bharin (1981: 131) notes:

> No one specialist or even group of specialists can be competent to deal with its [land settlement] scope and dimensions...No single scientist or study has yet established its claims, and each has its limitations....Each student has brought into play the point of view of his own discipline. Case studies in one discipline, such as economics, may be weak in another, such as politics. Rarely are these studies considered comprehensive.

Efforts to work with settlers and indigenous inhabitants in the identification and testing of new technology and support packages enhances the chances that the recommended innovations will be appropriate and adopted. Similarly, the FSR emphasis on continuous project monitoring that feeds back into the design of research and extension programs would increase the ability of government programs to anticipate and respond to the evolving needs and concerns of settlers over the project cycle (McMillan 1986a).

C. Development Activities Taking Place

51. Currently the World Bank is a major source of financial support for projects promoting land settlement. In fiscal period 1962-75 lending for settlement projects averaged about 5% of total agricultural lending (Goering 1978:42). Annual variations have been large ranging from zero in some years to a high of 29% in 1974 (Scudder 1985:71)[8] Scudder (1986) notes that after an early burst of enthusiasm for the possibilities afforded by land settlement in the 1960s,[9] the evaluations of the early

1970s tended to view settlement as a poor use of scarce development resources. More recent evaluations, notably the landmark World Bank Issues Paper, Agricultural Land Settlement (Goering 1978), are more positive. Goering concluded that given the opportunity for promoting "sound use of remaining unused arable lands" (Goering 1978: 49) and the need to improve the design, implementation and cost-effectiveness of the existing models for new lands development, "A modest expansion of the World Bank's settlement activities over the past" would be justified (*ibid*:49). He provides a list of project guidelines including the need for components to ensure sound, long-term use of all natural resources, adequate protection for the welfare of indigenous populations, and research to develop new production technologies for small-farms in the semiarid zones and humid tropic areas most likely to be settled. Of particular importance, the 1978 World Bank Issues Paper (Goering 1978) was the first well known and widely disseminated statement by a major donor of the need for new lands settlement programs to emphasize the development of low-cost programs to work with spontaneous settlement (1978:28):

> Where population pressure and underutilized arable land coexist, spontaneous settlement will occur regardless of government policy. This is the dominant form of settlement at present, and it is likely to remain so for the future. Therefore, much of the Bank's support of settlement will be designed to prevent the most adverse socioeconomic and environmental effects of this uncontrolled occupancy of new lands.

52. Scudder's report, The Experience of the World Bank with

Government-sponsored Land Settlement (1985), was intended to follow on the earlier World Bank sponsored review by Goering.[10] Scudder notes that while many lessons had been learned in the intervening decade, the lessons had not been systematically incorporated (1985:1). For example 30 percent of the least satisfactory projects in his study had been initiated since 1975, all of which could be faulted on the basis of lessons learned elsewhere at the time of their commencement (ibid.). Where lessons had been learned, their application was typically restricted to follow-on projects within the same country (ibid.). One obvious way to increase the chances that lessons learned from the implementation of new lands settlement programs feed back into the design of future projects, is to improve monitoring systems for specific projects and the dissemination of monitoring results through their dissemination in agency documents such as those prepared for the World Bank by Goering (1978) and the Institute of Development Anthropology (Scudder 1985) and for USAID by the Institute of Development Anthropology (Scudder 1981, 1984).

53. Scudder's original global evaluation of the development potential of new lands settlement in the tropics and subtropics was funded through a grant from USAID to the Institute of Development Anthropology from 1979 through 1981 (Scudder 1981, 1984). The evaluation included three components (Scudder 1984: v): (1) a literature search which provided systematic information on over 100 settlement areas in 35 countries plus Micronesia and Melanesia; (2) field studies in four countries in Africa and

Asia; and (3) site visits by Scudder to support the project's field studies and collect independent information. Though the initial USAID funded evaluation ended in late 1981, assessment of the policy implications of new lands settlement as a development intervention continues today through the USAID sponsored Clark University/Institute for Development Anthropology Cooperative Agreement on Settlement and Resource Systems Analysis (SARSA) (ibid.). SARSA continues to provide continuity to comparative research on new lands settlement as well as to support new research in Latin America and Asia. Most recently SARSA has prepared a global review of planning models for integrated river basin development (USAID 1985a, 1985b).

54. USAID has in the past and continues to support a large number of river basin development schemes that include dam construction and irrigation. In almost all cases these projects have involved planned relocation of the indigenous populations displaced by flooding, planned relocation of settlers to the irrigated perimeters, and spontaneous settlement to surrounding regions. Other types of direct involvement that are currently underway include USAID support for settlement/resettlement/refugee activities in countries as diverse as Mali, Somalia, Sudan, Uganda, Chad, Zaire, Burundi, Rwanda and Kenya (personal communication, P. Fleuret, July 24, 1986). In addition, USAID continues to be one of the largest single donors ($23 million out of total disbursements of $158 million for the period 1974-1985) (Kelly et al. 1986) of the Onchocerciasis Control Programme (OCP), a disease control project

which is having and is projected to continue to have a substantial impact on spontaneous new lands settlement in a twelve country area of West Africa (Appendix II). To date, however, USAID, like the other OCP donor agencies, has focused on issues of biological control. Although USAID was one of the original agencies involved in supporting a capital-intensive planned settlement program for Burkina's areas covered the OCP (the Volta Valley Authority or AVV referred to in Appendix II), this funding was discontinued in 1980. Other areas where USAID funding has had a substantial impact on new lands settlement is in the area of support for FAO coordinated livestock disease control programs, as well as for national programs to improve rural roads and infrastructure.

1. Experiences with Assisted Settlement in Latin America and Asia.

55. Two of the of the best known projects to have seriously experimented with the concept of "assisted" spontaneous settlement are the Caqueta Project in Colombia and the Indonesian government's Transmigration program. In 1959 the Colombian government initiated directed colonization to support population redistribution into the upper reaches of the country's Amazon Basin just southeast of the Andean piedmont (Palaniappan n.d.; Scudder 1981c). In 1961 the planned settlement program was abandoned and the emphasis shifted to assisting settlers who came independently to the zone to claim and establish themselves on public land (Palaniappan n.d.: 1). Assistance was given only after the colonists had indicated their willingness and ability

to live in the area by clearing a substantial landholding. The project was expanded in the 1960s with support from USAID (ibid.). In 1968 the World Bank funded a four year extension of the program that consisted of: on-farm development; long-term credit, mainly to purchase breeding cattle; credit for fattening cattle; road construction and complementary works; forestry and erosion control; education and health programs; technical assistance to farmers; and strengthening of project administration (World Bank 1984:ii). In spite of civil disturbances and guerrilla activity in the area that disrupted the smooth conduct of certain project operations, the second phase of the project was considered to provide a model for the "type of physical and social infrastructure needed to support a spontaneous land settlement in Colombia's Amazon basin" (ibid.:iv). The Bank analysis of the Caqueta program stressed the importance of road construction, social services and registered land titles (the project required settlers to have legal title to their land as a prerequisite for long-term production loans) to be valuable lessons that could be generalized to other settlement schemes. Also emphasized was the longer implementation period that is required for settlement schemes than for other types of agricultural development projects (ibid.:18).

56. The second well known example of assisted settlement is the Indonesian government's transmigration program where spontaneous settlers are assisted with transportation costs from Java and the Sunda Islands to Sumatra, Sulawesi, and Kalimantan--and with a

range of services and other assistance after their arrival (Scudder 1981:19). Here again, however, it was only at a later stage of the program that the government switched from its earlier concentration on planned settlement. One of the best pieces documenting the evolution of different project policies to support spontaneous settlement is a draft memorandum prepared by G. Davis (1979) entitled "Moving with the Flow: The Case for Spontaneous Migration in the Indonesian Transmigration Program" [the memorandum is quoted extensively by Bharin (1981)]. Davis notes that the spontaneous settlers tended to immigrate to areas that they had visited previously and/or where they already had family members. She notes that the labor shortages that resulted from the successful introduction of new high yielding cropping systems led to increased spontaneous immigration to the sites and that this immigration occurred through pre-existing chains that were largely kinship based. She concludes (1979:8): "These chains of mutual support are what make migration work."

57. Davis's comparison of older sponsored, semi-sponsored and non-sponsored transmigration settlements that had achieved different levels of success, emphasizes the key role of employment creation, spontaneous immigration and community diversification. She suggests that government programs to channel spontaneous migration should focus on the design, implementation and evaluation of policies in two key areas: (1) to remove existing constraints; and (2) to provide incentives through employment creation. Constraints to out-migration include land availability, access to project sites and

the difficulty of obtaining initial food and financial support in the new area. She notes that first priority for employment generation has been and should continue to be to increase the amount of employment generated within the agricultural sector through the introduction of higher yielding technical packages. However she notes that the fullest attainment of agricultural employment can only be had through the diversification of production activities that spread the labor of the farm family over as much of the year as possible (ibid.:34). She concludes with a strong statement about the need for "phase" models of project support in order to satisfy the need for different kinds and levels of support as well as different work arrangements at different stages of a settlement's development (ibid.:42). The model assumes that it will take a relatively large amount of money to settle relatively few migrants in the first few years and that successive waves of migrants can be settled at decreasing expense (ibid.:43). Conversely, there is the need to plan from the beginning for successive waves of spontaneous immigration and their incorporation into the new communities at different points in the project cycle (ibid.).

2. The Volta Valley Authority (AVV).

58. A less well known example of assisted settlement is being developed by the Volta Valley Authority (AVV) of Burkina Faso. In 1974 the AVV was created as an independent agency of the Burkina government and given responsibility for coordinating the settlement and development of Burkina's land covered by the Onchocerciasis Control Programme (OCP). The AVV proceeds through

the progressive installation of groups of planned villages in the decontaminated zones (Appendix I, Figure 10). The project is responsible for settler recruitment; the provision of supplementary foodstuffs during the settlers' first year; the installation of basic roads, economic and social infrastructure; and the coordination of extension, research and credit programs to support the development of intensive agriculture; and until 1980 when this aspect was discontinued the transportation of the settler families to their new village site (McMillan 1983; Murphy and Sprey 1980; AVV 1974).

59. By the fifth year of planned settlement, the AVV was being criticized at the national and international levels. It was increasingly difficult to justify the high costs of the project ($12,000-$15,000 per settled family) (BEI-agrer 1978) in a country which lacked even the most basic infrastructure and social services. Other areas of concern were the slow rate of planned settlement, the negative impact of the project on women, and the project's displacement of neighboring indigenous inhabitants of the valleys. Of particular concern was the high rate of "illegal" spontaneous settlement that was occurring. It was anticipated that at the prevailing rate of spontaneous settlement many of the areas chosen for planned settlement would be colonized by spontaneous settlers before project planning for these areas would have even begun. In 1980, at the encouragement of the principle donors, the AVV began to experiment with a less capital-intensive model of "assisted" settlement that focused on the indigenous inhabitants of the areas and spontaneous settlers

moving in. In 1982, again at the direction of the major donors, the project underwent a complete reorganization away from its earlier centralized model to several decentralized planning units under the revised structure of national regional development authorities (AVV 1974, 1981a, 1981b, 1981c, 1983). In contrast to earlier project models that restricted services to spontaneous and sponsored settlers living in planned villages, the revised project model encourages the extension of economic and social services to indigenous inhabitants as well as to the spontaneous settlers who are primarily responsible for the substantial increase in cleared area that has occurred since the eradication program began in 1974.

3. Self-settled Refugees.

60. A related though very different type of new lands settlement taking place concerns the spontaneous and sponsored resettlement of refugees and other displaced persons. The United Nations High Commission on Refugees (UNHCR 1986:37) places the total number of refugees in Africa today at 3,195,600 persons (UNHCR 1986:37). The "refugee problem" is not evenly spread but concentrated in certain countries where the refugees may constitute from 1-5 percent of the total population in the country (Table 6). The official U.N. figures represent a conservative estimate and do not account for the large populations within individual countries who may have lost their livelihood due to civil war, pestilence or drought and are forced to relocate.

61. In contrast to popular belief, the vast majority of the refugees and displaced persons who have resettled are not living

Table 6 . Refugees Resettled and in Need of Protection and/or Assistance in Relation to Native Population and Per Capita GNP (top 13 in order of refugees to population ratio)

Somalia	1/12	Angola	1/86
Djibouti	1/18	Uganda	1/97
Sudan	1/20	Zaire	1/101
Swaziland	1/56	Tanzania	1/121
Zambia	1/67	Lesotho	1/130
C.A.R.	1/73	Algeria	1/133
Burundi	1/76		

Source: United Nations High Commission for Refugees, World Refugee Survey, 1985. New York: United Nations. Pg. 39.

Table 7: Numbers of African Refugees in Different Categories

	1976	1985
Total Number	2,000,000	3,195,600
Percentage Refugees in Different Categories 1976-1979[1]		
Urban	1.2-4.0%	
Rural Refugees in Organized Settlements and Camps	24.0%	
Self-settled Rural Refugees, not in Organized Camps	60.0-75.0%	(1,917,360-2,396,700)[2]

[1] Based on Pan-African Conference and Chambers' estimates in Chambers (1979:382) as well as recent research studies by Harrell-Bond (1986). and others.

[2] Figure based on percentage of 1985 estimate.

Sources: R. Chambers, "Rural Refugees in Africa: What the Eye Does Not See," Disasters 3(4):38 and UNCHR, World Refugee Survey: 1985. New York: United Nations. 1986. Pg. 39.

in planned settlements (Table 7). Instead, the majority of these can be classified as "Self-settled, and not living in organized settlements or camps" (Chambers 1979: 382; Clay and Holcomb 1985). A resolution of the Pan-African Conference on Refugees held at Arusha in May 1979 recognized that "at present more than 60% of Africa's rural refugees live outside organized settlement schemes" (ibid.). More recent case studies of refugee resettlement in Sudan estimated that a similarly high ratio (more than half) of resettled refugees could be categorized as "self-settled" as opposed to government-sponsored (Turton and Turton 1984; Harrell-Bond 1985). Similar results are reported from research in Zambia, Sudan and Ethiopia (Neldner 1979; Hansen 1979a, 1979b; Hansen and Oliver-Smith 1982; Spring 1979). To date, however, the vast majority of the literature on refugees has focused on the immediate food, health and political problems of dislocated people covered by the official UN definition of a "refugee" (D'Souza 1981) who it presumes will be resettled through the planned agricultural settlements (Harrell-Bond 1985). Far less attention has been focused on the need for foreign donors and national development agencies to work with the "spontaneous" or "self-settled" refugees, a point discussed by Hansen and Oliver-Smith (1982), Harrell-Bond (1985, 1986), Holt (1981), Chambers (1979, 1982).

4. Human and Animal Disease Control Programs.

62. Other developments relate to the substantial investment by the World Bank, FAO, USAID and other donors in human and livestock disease control. Since 1974, the Special Programme for Research and Training in Tropical Diseases (TDR), initiated by WHO and co-sponsored by the United Nations Development Program (UNDP) and the World Bank has coordinated an international consortium of research to develop new weapons against tropical diseases. Six diseases--malaria, schistosomiasis, filariasis (including onchocerciasis and elephantitis) the trypanosomiases, the leishmaniases and leprosy have been targeted for research, first, because of the medical problems they pose but also because

of their adverse affects on land settlement and development (Lucas 1985; Clausen 1985). Many of the existing control tools are not highly effective; in some cases their effectiveness has been blunted by use and abuse (ibid.).

63. Disease control programs are by their very nature international and require a complex integrated approach to the different health and entomological aspects. They are considered to be an expensive but cost-effective means of improving the lives of large numbers of limited resource agriculturalists. Although disease control programs usually emphasize the potential economic impact of disease eradication in terms of increasing the total fund of high quality crop land, they have seldom been concerned with actual development planning for the decontaminated zones. Instead, questions of economic and social planning have in most cases been left to policy planners in the affected countries. An additional concern relates to the capacity of countries to continue to monitor disease incidence once the "devolution" of this responsibility to national health organizations has taken place (Kelly et al. 1986).

64. Some idea of the potential "devolution" problems that are inherent in disease control can be seen in the successful control in the 1960s and 1970s and later resurgence of rinderpest when many of the poorer African countries were unable to continue to vaccinate the annual increase of young stock once donor funding for the control program was discontinued (Appendix I, Figure 5) (FAO 1983c, 1984b). At the present time the control of rinderpest remains critical with national programs and

international agencies faced with much the same situation in terms of disease incidence that they had at the beginning of the first campaign in 1962 (P. Gibbs, personal communication, June 1986).

65. One of the largest active disease control programs being carried out and one that exposes some of the peculiar opportunities and constraints for new lands settlement in areas of disease control is a massive World Health Organization program to control onchocerciasis or river blindness in the Sahelian region of West Africa.[11] When the Onchocerciasis Control Programme (OCP) began in 1974 it covered approximately 654,000 km^2 of a seven-country area including parts of Togo, Ghana, Benin, Ivory Coast, Niger, Mali and Burkina Faso (Appendix I, Figure 3). At the regional level the program includes spraying the infected river basins with a biodegradable organophosphate (abate) in order to bring the population density of the disease vector below a critical level. The spraying which began in 1974 was scheduled to continue for a twenty year period to cover the length of time that an infected person remains contagious.

66. In 1974 when the programme began, more than one million people out of a total population of 10 million within the area, were suffering from onchocerciasis and at least 100,000 persons were blind or had their eyesight seriously impaired. Moreover the disease was considered to have been the major factor causing the lack of settlement in large areas of relatively fertile land, some of it with high potential for irrigation. The goal of the program was and continues to be:

> to reduce the impact of onchocerciasis to a sufficiently low level so that it no longer presents either a public health problem or an obstacle to socio-economic development, and also to maintain and adjust control activities so as to stabilize the disease at a tolerable level (WHO 1977: 3).

It was anticipated that the control program could eventually bring another 70 million hectares into agricultural production. The OCP is financed and directed by a consortium of international and bilateral aid agencies including USAID.

67. In addition to its larvacide spraying the OCP has maintained an active monitoring program to ensure that the incidence of the disease remains below a critical level. Research has continued on the life cycle of the fly in order to develop more effective control measures and alternative sprays should the flies become immune to abate. The organization has also been involved in research to develop more effective means of mass treatment of infected persons. Another element of the program is personnel training to ensure the progressive takeover of the program in each of the countries concerned. Although the OCP has emphasized that the settlement and development of the relatively uninhabited fertile lands of the Volta River Basin is a major objective of the control program, it has not provided any direct support for the national governments concerned with either the planning or administration of these development efforts. Burkina Faso which is the country with the largest area affected by the OCP, was the only country to implement a highly centralized program of planned settlement and agricultural extension in the control zone. It is this program which is the

Volta Valley Authority or AVV that was described earlier in this section.

68. By the end of 1979 the transmission of onchocerciais had been interrupted in about 75% of the geographical area covered by the project and studies showed that children born after the program started were disease free (WHO 1980). In 1979 plans began for a southward and western expansion of the larvacide program in order to cover some foci of disease and suspected sources of reinvasion that had not been included in the original area under treatment (Appendix I, Figure 3) (WHO 1985).

69. The OCP is in the process of completing a ten year evaluation of the project which includes an assessment of spontaneous and planned settlement. An analysis of photographic and satellite data for Burkina and one area of Mali (a similar analysis is planned for other areas in the control zone) shows a substantial increase in the total area cleared in some of the affected countries; in other areas the land clearance and settlement rate has been less extensive due in large part to differences in adjacent population pressure, soil quality and local perceptions of the area (Table 8) (WHO 1985). Only a small percentage of the area cleared and estimated settlements that have been established can be attributed to government-sponsored programs, and this largely in Burkina. The vast majority of the land settlement taking place can be classified as spontaneous and has been virtually untouched by national systems for economic and social services even in Burkina where the modified AVV program has made a deliberate attempt to work with spontaneous settlers

Table 8. Extent of Settlement and Cultivation of Land Under Onchocerciasis Control Before and After the Control Programme

	Increase in Area Cultivated		
	Annual Increase		Total Increase
Country/Sample Areas	1954-74	1974-84	1974-84
Mali			
Farako Basin	——	4.0%	——
Burkina Faso			
White & Red Volta Basins	0.2-0.3%/Yr.	11%/Yr.	223%/10Yrs.
Bougouriba	——	6.4%/Yr. Birifor country[2]	
and Black Volta Basins	——	2.4-7.8%/Yr Dagara country[1]	
Samandeni Region,	——	——	300%/10Yrs.[3]
Saint-Pierre Region,	——	——	600%/10Yrs.[4]
Léraba Basin	——	——	12%/10Yrs.[5]
Comoe Basin	——	——	100%/10Yrs.[6]

[1] 7.8%/Year in the direction of the Black Volta and 2.4%/Year in the direction of the Bougouriba.

[2] Located south of Dagara country but following the same patterns

[3] Population grew by 229% between 1977 and 1982 due in large part to spontaneous Mossi immigration into area

[4] 600% increase for district represents 24.7% of the available land. In the valleys, notably that of the Kéralié, almost the entire cultivable land surface is occupied. Area has been the scene of intensive immigration from Mali as well as other areas of Burkina.

[5] New occupants, often native of area, are building dwellings where crops are, thus creating nuclei of future villages.

[6] Increase in village farmlands but little immigration; occupation of valleys often temporary

Source: Onchocerciasis Control Programme. Ten Years of Onchocerciasis Control in West Africa. Review of the work of the Onchocerciasis Control Programme in the Volta River Basin area from 1974 to 1984. Geneva: World Health Organization. OCP/ GVA/85.1B. Pp.

since 1982. Although the coordination of new lands settlement and development activities has not been a priority in any of the other OCP countries, the project takes credit for a substantial increase in the overall level of interest in development planning for these areas (WHO 1985). The ten year report noted an increase in the total number of projects in the region from 160 in 1975 to 320 in 1982 and a quadrupling of the relevant capital investment (ibid.: 109).

70. By far the major priority for donor investment in animal disease control[12] as been trypanosomiasis (Jaisorowski 1972; FAO 1983a; Rweyemamu 1981). African sleeping sickness of man and Nagana (animal trypanosomiasis) are both caused by trypanosomes transmitted by tsetse fly. The tsetse fly is present in 37 countries of Africa, infesting some 9 million hectares or 42% of the total land area. Thirteen countries, all of them in Africa (Benin, Central African Republic, Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea Bissau, Ivory Coast, Liberia, Sierra Leone, Togo and Zaire) are practically completely infested (FAO 1981)(Appendix I, Figure 4). Altogether some 45 million people are estimated to inhabit infested land. Unlike sleeping sickness trypanosomes which infect only a few tsetse at particular foci, all tsetse wherever they may be harbor trypanosomes that are infective for cattle. FAO estimates that presently infested areas might eventually support up to 120 million head of cattle (or the equivalent of other stock).

71. Control by immunization is at present impossible and treatments have in many cases produced drug-resistant trypanosomes. For the next few years the control of tsetse and trypanosomiasis must rely on a combination of other methods including ground and aerial spraying of insecticides, changing the tsetse's habitat through bush-clearing or "balanced land use patterns" (MacLennan 1980:6) and disrupting the tsetse's reproductive cycles through the release of sterilized flies (MacLennan 1981). In view of the lack of of funds and trained personnel to implement and monitor more elaborate control and

eradication programs for this extremely dynamic and constantly changing livestock disease, there is increasing interest in the use of trypanotolerant breeds of cattle (FAO 1981; Starkey 1984).

72. In 1979 the FAO established a more specialized Commission on African Animal Trypanosomiasis to assist with the implementation of the action programme and to conduct expert consultations on the program's technical, environmental and rural development aspects (ibid.: 26). These activities have been encouraged by other donors including UNDP and the World Bank. A regional project for the rearing of trypanotolerant livestock was established in Burkina Faso (ibid.). In its provisional report for 1986, FAO in Africa (1986:25), the FAO renewed its commitment to the control of trypanosomiasis as "one of the major constraints to livestock and agricultural production over 700 million hectares outside the tropical rainforest zone," much of it with considerable agricultural potential. Other writers are more skeptical. Omerod(1976) suggests that such measures introduced hastily, could have a profound ecological effects on vegetative cycles and even climate. Although other researchers (MacLennan 1980, 1981) dispute this view, citing the experiences of Nigeria which launched one of the largest successful campaigns against trypanosomiasis on the continent (FAO 1983a: 18-19) the FAO has itself observed that (FAO 1982a: 124):

> the use of land cleared of tsetse has not always been optimal. Land use planning supported by necessary legislation and the creation of appropriate infrastructures have not kept pace with the elimination of the fly.

In view of the potential impact that large-scale control of sleeping sickness could have, the Commission recommended that tsetse control or eradication be supported _only_ in conjunction with comprehensive land use planning to work with the anticipated increase in spontaneous settlement that would undoubtedly follow a successful campaign (FAO 1981, 1983a, 1983b, 1986; Koeman et al. 1980).

5. _Irrigation and River Basin Development Programs_.

73. In the last ten years there has been a dramatic increase in interest in irrigation primarily as a means of reducing countries' dependency on rainfed agriculture (Appendix I, Figure 7) (Eicher and Baker 1982: 134).[13] There has also been a growing emphasis on the fact that certain countries, notably Kenya, Senegal, and increasingly Zimbabwe, have expanded to the limits of their potentially arable lands and, as a result, any subsequent increases in agricultural output will require investments to intensify production, including multiple-cropping on irrigated land (_ibid_.).

74. Large scale irrigation projects have almost always been associated with some amount of planned settlement including the relocation of persons displaced by the construction of major water works and the installation of planned settlers on project plots. Studies show that the successful implementation of a large-scale irrigation project can catalyze a wider process of regional economic development. Less frequently discussed is the indirect role of the project in stimulating large amounts of spontaneous or "non-sponsored" settlement into the surrounding areas.

75. Six major river basin complexes including large-scale irrigation are currently being rehabilitated or developed: the Office du Niger in Mali, the Lake Chad River Basin Commission (LCBC), the Senegal River Valley Development Authority (OMVS), the Gambia River Basin, the Juba Valley Development, and the Niger Basin Development (information on the Tana River Project in Kenya was lacking at the time this was written) (Brokensha, Horowitz and Scudder 1977; USAID 1985a, 1985b; Abernathy 1984; Walsh 1986). There is little doubt that if and when fully implemented these projects will attract considerable spontaneous rural settlement in addition to planned settlement.

76. Because of the well-known criticisms of large irrigation schemes, attention is now turning to small scale irrigation practiced by individual farmers, under their own responsibility with low cost and little or no government support (Eicher and Baker 1982; Matlon and Spencer 1984; Lele 1984; Kay, Stephens and Carr 1985). Nigeria offers an encouraging example where small-scale irrigation has grown from 680,000 ha over the past 25 years compared (Kay, Stephens and Carr 1985: 115) with a 15 year increase of only 30,000 ha that can be attributed to large-scale irrigation schemes (the expected expansion of irrigated land through large-scale irrigation had been between 100,000 and 300,000) (ibid.). To date, there has been very little literature on these projects although they would appear to offer considerable potential for new lands development in areas with irrigation potential (Mayer 1979).

6. Land Reform, Villagisation, and Other Programs

77. Kenya is one of the 22 African countries that the FAO expects to be facing a severe land shortage by the year 2000. The country's Million Acre Scheme which redistributed more than 1.2 million acres of formerly European land was one of several mechanisms that the government has used to redistribute land to low resource agriculturalists and to increase productivity on the farms. However, in the absence of effective policy instruments (for example a land tax) to encourage efficient land use, the land ownership and distribution pattern of the redistributed landholdings tends to be skewed with large areas of the redistributed holdings being purchased for speculative purposes. Early evidence for this skewed distribution could be found in the large numbers of rural squatter settlements that developed by the mid-1970s (Mbithi and Barnes 1975). Today, the "squatter" problem is continuing due to the lack of feasible new technologies, and the skewed distribution of people into the more marginal areas where they use inappropriate farming practices (Mwagiru 1985; personal communication C. Barnes June, 1986). Makamure and Gutto (1985: 10) quote the Kenya Minister for Works, Housing and Physical planning as saying in October 1985 that the problem of spontaneous settlement had reached crisis proportions and that the government will introduce new legistation to "control" them.

78. Land settlement schemes along the lines of Kenya's Million Acre program are now being used to redistribute the initial purchase of 6-7 million hectares of former European lands in

Zimbabwe--another one of the African countries that is already facing severe land pressure. The settlement program proceeds through the progressive installation of groups of planned villages. The government conducts preliminary surveys of the area, selects the village sites, provides basic infrastructure as well as basic social and economic services. Each household is allocated 5 hectares of arable land, a 1/2 hectare homesite and access to communal grazing. The original plan was to settle some 162,000 families by 1985. As of June 1985 some 35,000 families had been resettled and the government was trying to purchase additional land (personal communication, K. Akwabi-Ameyaw, June 1986). Spontaneous settlement in areas outside an official project farm is outlawed and considered "squatting". In addition, the government enforces a cap on the total number of people in each planning unit. However, government controls are proving difficult to enforce since the government "cannot have a policeman behind every tree and every rhino and elephant. Nor can we place a guard on every square metre of a river bank" (Prime Minister Mugabe, November 5, 1985 in Makamure and Gutto 1985:10-11). Makamure and Gutto (1985:10) conclude that spontaneous rural settlement into the areas surrounding the official project lands has reached "alarming proportions."

79. Although little is known about it, the Ethiopian government has launched a major "villagisation" program, reminiscent of Tanzania's Villagisation Programme of 1974-76 whereby Tanzania attempted to resettle the majority of her rural population in

relatively big and compact villages compared to the scattered homesteads in which they had previously lived.[14] It is anticipated that as many as 30 million Ethiopians--about 90 percent of the country's 42 million people--could eventually be moved over the next eight years (Rule 1986). The program is in addition to the controversial resettlement program that has moved about 600,000 Ethiopians from the drought-stricken north to resettlement sites several hundred miles to the south (ibid.).

D. Special Planning Issues.

1. Administration and Financial Management.

80. Although the creation of a special administrative agency may facilitate the development of intersectoral coordination, increase the visibility of settlement activities, and indirectly assist in securing donor funding in the initial stages of a project, it can create special problems. This is especially the case in later stages (Stage Four or "Handing over and Incorporation" in Scudder's four stage model) when there is an attempt to incorporate the special functions of the settlement agency within the existing administrative structures for social and economic services. It is suggested that the long-term interests of the settlers are better served by the coordination of special programs through the existing network for regional and social services in a location not too far away from the settlement itself (Lacroux-Ovando 1985:13).

2. Economic Sustainability.

81. Market proximity is considered to be a major determinant of the economic viability of a land settlement scheme (Van Raay and

Hilhorst 1981). Land settlement schemes at more remote locations are less attractive. Total development costs tend to be higher due to the additional infrastructural requirements while net income per hectare tends to be lower due to higher transportation costs (ibid.). As a result, land settlements in more remote locations cannot realistically be expected to stimulate prosperous farming communities unless not only the infrastructure for transportation and marketing is established, but its operation is also subsidized for many years to come (price incentives, subsidized inputs, subsidized transportation costs, etc.). Van Raay and Hilhorst (1981) state that if costs relative to benefits are adopted as the central point of reference in new lands settlement, then government assistance would best be located near centers of economic activity and government in order to benefit from existing infrastructure and to ensure ready access to internal and outside markets.

3. Environmental Sustainability and Natural Resource Management.

82. A successful intervention in new lands development and settlement sets in motion a process of regional economic growth and development that is self-sustaining and does not destroy the scarce ecological resources on which it depends. Related to this is the need for development planners to address the wide range of settlement activities occurring in an area including rural sponsored and spontaneous settlers as well as the related urban centers and markets and what Harris (1986) calls the "critical supporting systems" Harris (personal communication

June 1986). Harris notes that traditional patterns of spontaneous rural settlement were, of necessity, aware of a range of settlement needs outside of food, forest and animal production that he calls recycling, decomposition, abatement, storage, water, and reservation (Harris and Kangas 1979). When disequilibriums occurred, usually due to population increase, all or part of a settlement would move on. With the creation of large-scale government investment in roads and other types of economic and social services, there is the creation of population "magnets" that can attract spontaneous settlement in excess of the carrying capacity of one or more of the former systems. To create the space necessary for these systems through public buy back programs at a later date, can be expensive and time-consuming (Okpala 1982; Gutto 1983). Harris observes that carrying capacity is subject to modification by technology development (for example mineral fertilizer and irrigation) but that these technologies must be integrated with other ecological systems functions such as nutrient cycling and energy flow lest they engender a whole new suite of ecological problems in and of themselves (personal communication, L. Harris, June 1986).

4. Health and Disease Issues.

83. Related to the need for environmentally sensitive planning is the need to plan for and monitor the impact of the ecosystem disturbances associated with new land settlements and the associated technological innovations. Land development projects to provide irrigation or hydroelectric power may cause a series of ecosystem disturbances involving parasitic and infectious

Table 9: Examples of increased Prevalence of Schistosomiasis from Sample Water Resource Development Projects in Africa

Country	Project/Year Completed	Pre-Project Prevalence	Post Project Prevalence(%)
Egypt	Aswan Dam (1900)	6%	60% (3 Yrs. later)
Sudan	Gezira Scheme (1925)	0%	30-60% (15 Yrs. later)
U.R. Tanzania	Arusha Chini (1937)	low	53-86% (30 Yrs. later)
Zambia & Zimbabwe	Lake Kariba (1958)	0%	16% adults; 49% children (10 Yrs. later)
Ghana	Volta Lake (1966)	low	90% (2 Yrs. later)
Nigeria	Lake Kainji (1969)	low	31% (1 Yr. later) 45% (2 Yrs. later)

Source: P.L. Rosenfield and B. Bower In. F.E. McJunkin, Ed., Water and Human Health. Washington, D.C.: United States Agency for International Development. 1982. In, WHO 1986.

disease transmission cycles and result in serious long-term damage to the health of the population in the vicinity of the project (WHO 1986:104). A notorious example is the well-documented spread of schistosomiasis in connection with water resource development projects in Africa (Hughes and Hunter 1970; Kloos 1977; Mott 1984) (Table 9). Large water projects can also give rise to a host of other health problems such as work accidents, malnutrition and other diseases of poverty among the displaced population and an upsurge of malaria among spontaneous settlements who grow up around such projects (WHO 1986: 104). The development of drinking water resources in new settlements may be rudimentary resulting in the use of water sources for many purposes including fishing, bathing, and drinking water for humans and animals; small impoundments may also suffer from poor maintenance and problems such as seepage (Martin 1975). All of these conditions favor the proliferation of important disease vectors (ibid.) Little attention has been paid in the past to these health effects of land development and settlement projects. In most cases, the action taken has been remedial after the projects have had their negative health effect although methodologies for the appraisal of water projects in relation to their environmental and health impact are available.

5. Special Household and Subhousehold Groups.

84. The socio-economic literature on new lands settlement has emphasized the fact that the direct and indirect effects of land settlement are not evenly spread across all household and subhousehold groups. Studies show that it is usually not the poorer households that are able to take advantage of spontaneous immigration but those who are relatively better off (McMillan 1983). By the same token research on refugee resettlement shows that rural refugees that self-settle tend to be the younger refugees with intact family structures and an agricultural background; it is usually on the older refugees, those in poorer health and "partial households" who have lost other members of their family who remain in camps and are chiefly reliant on agency sponsored resettlement programs (Harrell-Bond 1979, 1986; Hansen 1979a, 1979b; Spring 1979). For the "poorest of the poor," government assistance with physical relocation and reinstatement of the new communities is an important determinant of their ability to take advantage of new land opportunities at

pre-existing or higher income levels.

85. In general the settlers living in planned settlements do in fact show a higher income than farmers living in their areas of origin (Scudder 1984, 1985; McMillan 1983). Directed settlements may also have a fairly immediate and direct impact on other key indicators of living standards. One example of this is the substantial increase in education levels in Tanzania largely as result of the educational supports that were tied to the ujaama and villagisation programs. Scudder notes that researchers and policy-makers often forget some of the more direct economic and social impacts of planned settlement such as these due to their preoccupation with economic rates of return as opposed to financial and social rates of return to individual settler households (Scudder 1985).

86. Another group of target units with particular planning needs consists of the people already living in, or at least seasonally using, the "new" areas. Although a particular area may be "underutilized," it is never unclaimed. The indigenous inhabitants of a region represent an important source of information on soil and water quality and the suitablility of different settlement sites. This information is especially important in frontier areas where there is usually a range of factors that accounts for the lack of settlement in a region. Where the interests of the indigenous settlers have been overridden, this has usually contributed to the alienation of the new settlement site from the region, restricted settler access to regional markets, and perpetuated a sense of settler dis-ease and

"not being at home" in the new environment.

87. Many of the "new" areas being settled were not used year round but seasonally by migrating pastoralists. This is especially the case in many of the under-populated riverine areas in the Sahelian zone where the pastoralists often took their herds to get them away from settled areas during the rainy season. When settlers arrive in large numbers it can interrupt the traditional grazing cycles. Both government agencies and agriculturalists are mindful of the depredations that one loose animal can wreak on a growing field or on land improvements like irrigation canals and erosion banks. Unless there is a deliberate attempt to provide pastoralists with compensatory programs and/or efforts made to "restructure" farmer-pastoral interactions in the area (through controlled ranching or participation in settler credit programs), old attitudes of mistrust between "shiftless" pastoralists and settled farmers--not unlike the cowboy-rancher conflicts of the old U.S. West--can resurface with new ferocity. In extreme cases there can be an escalation of actual or accused cases of cattle rustling (animal traction animals are especially vulnerable) and destroyed fields that can erupt in violence. This atmosphere of distrust and escalating conflict can work against the desired goal of diversifying settler sources of income in later years through livestock investments (McMillan 1983, 1986a, 1986b, 1986c).

88. An additional concern has been to assess the direct as well as often unintended effects of new lands settlement on women. For example several studies show a situation in which a

disproportionate amount of the laborious work involved in the establishment of new farms and a disproportionately small amount of the benefits in terms of increased income may fall on women (Isikadaq 1985). A well known example of this is the Mossi immigrants to the planned and later assisted settlement sites of AVV (Guissou 1977; Conti 1979). In their home villages the women settlers had access to private fields and semi-autonomous sources of income through private crop, livestock and non-crop production. Many of these activities were disrupted when the women immigrated to the project. Over time and with longer periods of residence in the project, the women settlers reinstated certain aspects of their traditional crop and livestock activities and acquired new rights to a percentage of the income earned from the sale of cash crops and new sources of crop and non-crop income. The project's agricultural programs did, however, bring about a fundamental transformation of family social relationships--in particular in reducing the financial and ultimately the social autonomy of women headed sub-household units vis-a-vis the male who the project recognized as the official household head (Gladwin, Staudt and McMillan 1986).

III. POLICY ANALYSIS

A. Role for Development Assistance.

89. For the last twenty years the topic of new lands development has been dealt with primarily as a sideline within the broader literature on African agricultural development. In the economics literature it has usually been portrayed as an either-or choice between government investment in intensification versus

extensification of production (Mellor 1966; Johnston and Kilby 1975; Matlon and Spencer 1984; Lele 1984; Delgado and Mellor 1984). It is increasingly apparent, however, that given existing rates of population increase and the extremely uneven distribution of Africa's land reserves, any long-term process of development will require some combination of the two approaches.

90. With the advent of new methods of disease control and production technology in combination with growing population pressure, large areas of Africa's less populated lands *are* being colonized. In view of the historic failure of past attempts to have a significant impact on new lands settlement through sponsored projects, it is the recommendation of this paper as well as some of the other important policy statements on new lands settlement over the last fifteen years (Nelson 1973; Goering 1978; Brokensha, Horowitz and Scudder 1977; Mabogunje 1981; Bharin 1981; Scudder 1981, 1984a, 1984b, 1985; Angel 1985; Lacroux-Ovando 1985; Chambers 1979) that more attention should be paid to government programs to assist with the far larger processes of spontaneous or unassisted settlement. This review of the literature has shown, however, that in spite of the growing emphasis on the powerful potential--for good and for bad--of the spontaneous occupation of new land, there have still been relatively few national or donor financed programs that have had assisted settlement as a deliberate project goal. Instead what we find is a situation not unlike that of the Amazon where planning agencies did not include either the native population or spontaneous settlers in their original plans, but were later

forced to do so.

91. The FAO study of potential population supporting capacity described in the first section of this paper provides a new baseline upon which national governments can develop more accurate land use planning, including the best means for promoting an ecologically sensitive process of regional economic growth and development in less populated regions. We also now have the beginning of the planning "theories" called for by Lewis (1964) and Brokensha (1963) to assist in the design of new lands settlement--notably the concept of a four stage planning model that Scudder has refined from the earlier phase and stage models of land settlement by Chambers (1969), Nelson (1973) and others (Scudder changed this to a five stage planning model in his 1985 World Bank Report).

92. Where the development literature is lacking is in policy statements that discuss the interrelationship of these stage models of new lands settlement and descriptions with more action oriented statements of research and development goals--both for local research and development methodologies like FSR as well as for national programs to promote regional economic growth and development. It is here at the juncture of Scudder's (1985) follow-up of the 1978 World Bank Issues paper, the USAID-sponsored global evaluation of the development potential of new lands settlement in the tropics and subtropics (Scudder 1981, 1984), the recent completion of the FAO Land Resources for the Future Project (FAO 1982a, 1984a), and the first Habitat (U.N. Centre for Human Settlements) sponsored international seminar on

planning for new lands settlement that was held in November 1985 in Nairobi, that foreign donor assistance could take a leadership role in focusing national and international attention on the next stage in the development of guidelines for development assistance for new lands settlements.

93. It is at the next stage that we will hopefully see: (1) a movement away from an exclusive reliance on descriptive accounts of spontaneous settlement and the reactionary modification of planned settlement programs to accommodate the associated influx of spontaneous settlement in areas of new lands development, toward the development of "proactive" programs that are designed specifically to facilitate low resource agriculture in areas being settled spontaneously; and (2) efforts to monitor the results of these projects so that they feed back into the planning models and directives for assisted settlement that have developed based largely on past experiences with spontaneous and sponsored settlements. There is also a chronic need to develop the capability to model and predict population shifts and their relation to ecological, economic, household and subhousehold changes in areas which will undergo significant spontaneous settlement. To accomplish these goals will require a multi-pronged approach that includes strengthening the planning capacity of national agencies to deal with assisted settlement, and reinforcing bilateral and multilateral donor programs that give assistance to national institutions that are already working in this area, and developing a body of expertise on this particular set of planning issues within Africa and abroad that

will be capable informing both national planning and international donor assistance.

B. Policy Recommendations for U.S. Development Assistance.

94. In view of the projected decreases in funds available for U.S. assistance to Africa, the role of the U.S. should focus on the reinforcement of existing efforts by national, bilateral, and multilateral development agencies to facilitate the development of low resource agriculture in areas of new lands settlement. More specific recommendations can be grouped into the three overlapping categories of: (1) project implementation; (2) research and documentation; and (3) networking.

95. 1. Project Implementation.

Enough is known about the social and economic factors that are involved at different stages in the design of successful (e.g. economically and environmentally sustained) new lands settlement and the critical need for policy planners to work with spontaneous settlers. These special considerations in a stage model of planning for new lands settlement and development have been outlined in numerous World Bank (Goering 1978, Scudder 1985), USAID (Scudder (1981, 1984, 1985a, 1985b), and United Nations Habitat (Angel 1985) documents. What is needed is actual projects that build in an appreciation of the special opportunities and constraints presented by spontaneous new lands settlement from a very early planning stage. It is here that the United States could assume a leadership role in supporting pilot projects for assisted new lands settlement. Preference should be given to: (1) development programs that attempt to work with spontaneous as well as planned settlement; and (2) programs to increase the ability of national research and extension organizations to work with indigenous low resource agriculturalists in areas of projected land settlement BEFORE the introduction of infrastructure development programs that will more than likely usher in a wave of spontaneous settlement (like the proposed extension of the Onchocerciasis Control Programme for which the U.S. is a major donor). Immediate emphasis should be given to the identification of a small number of existing programs (for example five) that represent a range of spontaneous settlement situations. Sample programs might include one or two national planning agencies (two suggested being Togo and Burkina Faso) working in the Onchocerciasis Control Programme (OCP) region; national programs coordinated with the UN High Commission on Refugee Resettlement in Sudan; national and regional planning units in Guinea where the projected extension of the Onchocerciasis Control Programme is expected to result in a substantial increase in spontaneous settlement; at least one area of Ethiopia related to OXFAM programs in that country that is undergoing extensive spontaneous settlement of low resource farmers from the drought-ridden areas; and the regional planning authority of at least one district in a less populated region in a Sahelian country that is receiving substantial rural in-migration through "traditional" mechanisms for acquiring land (Since the southwest portion of Burkina Faso has one of the best documented literatures on this type of spontaneous in-migration [Appendix II] preference should be given to another country).

2. Research and Documentation.

96. A second set of policy recommendations relate to the need to improve research and documentation on spontaneous new lands settlement. Specific areas where U.S. resources could build on existing and/or modify related programs already in existence include:

97. a. reinforcement of the USAID sponsored Clark University/Institute for Development Anthropology Cooperative Agreeement on Settlement and Resource Systems Analysis (funded through ST/RD/RRD) to provide continuity to research and analysis of global patterns of new lands settlement taking place and the more specific patterns of spontaneous and sponsored settlement in Sub-Saharan Africa;

98. b. reinforcement the attempts of the United Nations Centre for Human Settlements (Habitat) to coordinate national research and publication on planning for spontaneous rural settlement within Africa; and

99. c. renew USAID funding for research grants on "Population Growth, Renewable Resources and Environmental Policies in Africa" through the Bureau of Program and Policy Coordination, Office of Policy Development and Program Review with special emphasis being placed on: (a) supporting the completion of longitudinal research on spontaneous and assisted new lands settlement; (b) collaborative research with African scholars and institutions. [This year the four projects funded focused on the negative environmental impacts of high population densities in a densely settled countries of East Africa and were awarded to individuals in US institutions (personal communication S. Quandt and P. Koshel, October 3, 1986)].

100. 3. Networking.

It is suggested that the role of U.S. consultants and researchers in connection with the activities outlined in (1) and (2) be limited to collaborative research, analysis, and planning activities with African researchers and organizations. Moreover, it is suggested that the conditions for hiring any non-U.S. government employees as consultants be that the individual is employed as line faculty in a U.S. university or research institute like IDA, and that the individual's application for the position be accompanied by an official expression of the home institution's interest in supporting student, faculty and library development on land settlement issues. This type of connecting US researchers and consultants with strong support from their home U.S. and host African institutions enhances the possibility that U.S. funds used for consultant salaries and research will: (a) feedback into the available fund of U.S.-based knowledge from which U.S. policy makers can draw; and (b) reinforce the development of an international network of researchers and policy makers concerned with new lands settlement in Africa. This sort of development of U.S. centers of excellence and international, Africa-based networks on specific research topics is especially important in new areas of policy concern like new lands settlement and assisted spontaneous settlement. It is a strategy for U.S. targeted support that draws heavily from my own perceptions of U.S. efforts to reinforce international support for Farming Systems Research in Africa and abroad during the decade 1975-1985.

101. To conclude, the issue of policy planning for areas of new lands settlement in Sub-Saharan Africa is a research topic which can only become more urgent. At least three of the major international donor agencies including FAO, USAID, and World Bank have identified disease control as a priority area for

development assistance to Africa. The potential impact of these programs in terms of land use, food production, and long-range economic planning is enormous. Other lands are being settled spontaneously by self-settled refugees, in response to government investment in basic infrastructure and the basic lack of opportunities in Africa's more densely settled areas. Sound use of Africa's remaining arable land resources demands a recognition of new lands settlement as one category of concern within the broader literature that discusses the development of low resource agriculture. What I have attempted to do here is to indicate some of the leading works that outline the scope of planning issues and potential policy responses.

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[1] New lands settlement is defined as the spontaneous and sponsored settlement of areas which are largely uncultivated at the time of their occupation. It includes what has been referred to in the literature as "colonization," resettlement, transmigration and squatters. The distinction between spontaneous and sponsored settlers refers to whether or not settlers are self-recruited or respond to the recruitment initiative of a sponsoring agency (Scudder 1981:5). Scudder emphasizes that the distinction has nothing to do with their reasons or motivation for leaving their current residence for a settlement area (ibid.) In most cases both the spontaneous and sponsored settlers are pushed out of their previous communities by a lack of economic opportunities for them ands their dependents. They may also be forced to move because of civil war or natural disasters like drought or disease. Spontaneous settlers are individuals, families, kin groups and communities who settle in an area on their own initiative and primarily through their own initiative (ibid.: 6). Sponsored settlers are selected by a development organization which usually provides

them with assistance during the settlement process (ibid.).

[2] The potential productivity of land was assessed at three levels of input use (low, intermediate, high) (FAO 1982a:65) and related to the "present" opulation requirements (as represented by base year 1975 data). The low level of input use assumes the use of only land and labor, no fertilizer and pesticide applications, no soil conservation measures, and cultivation of the presently grown mixture of crops on all potentially cultivable rainfed lands, allowing for fallow periods. It gives the best estimate of the "inherent" capacity of a country's land resources. The high level of inputs assumes that all the necessary agricultural and conservation measures are applied to obtain maximum economic production. The "land potential" was assessed on the basis of rainfed crop production potentials throough the delineation and analysis of agro-ecological zones, matching identified soil and climatic requirements of soils with soil and climatic conditions. The production from the area of land irrigated in 1975 and projected to be irrigated by the year 2000 is included in the assesssment. The "potential population supporting capacities" (PPSC) is then computed as follows. The maximum potential calorie production is calculated for each country on the basis of the areas of agroecological zones of different productivity it contains and the crops they can grow. Comparing this sum of calories with per caput calorie requirements specific to the population of each country, gives the number of people that could be supported from the total

extent of land available and hence the number of persons supported per ha. of land. This figure is then compared to the actual (1975) population density to give the PPSC ratio. (Discussion drawn completely from presentation in, FAO, The State of Food and Agriculture, 1983, page 65.)

[3] Calculation of the PPSC ratio is described in footnote 2 above.

[4] Although attempts have been made to deduce the magnitude of population movements based on the analysis of satellite imagery and aerial photographs, these estimates have remained highly inaccurate and wide disparities appear when compared with survey data. In addition, there are serious methodological problems in defining precisely what to measure, as many settlers occupy more than one location, sometimes at great distances from one another (Angel 1985). Circular migration between different ecological niches and seasonal labor flows from one area to another are a well-documented part of may African cropping systems (Goldstein 1981). Fewer studies exist on the process of spontaneous redistribution in rural areas except in the form of case studies of specific communities. Bharin(1981:140) lists several reasons for this. Spontaneous movements are usually difficult, tedious and costly for researchers to document, either chronically or quantitatively (ibid.). Because these movements are seldom in response to government policy, there is relatively little sponsorship to do

research. In cases where the settlers are considered to squat illegally on public or private lands, disputes have arisen causing embarassment to authorities. There is also the comparative ease of carrying out research on government sponsored colonization projects where records are usually available on scheme policies, the location and size of the settler families (ibid.).

[5] Although the new land may be uncleared, it is never unclaimed. In most cases the right to farm is acquired through some cultural form of borrowing with the borrower getting rights to usage and the group or individual "owner" retaining final rights for disposition. These land loans are usually made for the period of time that the land is used. Over time, through the inheritance of land from generation to generation, the land that is acquired through borrowed right acquires the status of inherited.

[6] The spontaneous settlement taking place in Africa represents a variation on the traditional slash-and-burn or shifting cultivation systems found in most areas of Africa. An essential element of these systems is the need for cultivated areas to lie fallow for periods ranging from ten to fifteen years after successive years of cultivation. With the old fields lying fallow, new land would be cleared and brought into cultivation. At higher population densities, there is less land to clear and farmers may be forced to reduce or abandon the fallow period. If

modifications are not made in the cultivation system such as the addition of high levels of mineral or animal fertilizer, soil fertility is reduced and there is a parallel drop in yields. Farmers have three options if they are to maiintain their earlier income levels--to intensify their existing production systems through the addition of higher levels of labor and/or non-labor inputs such as fertilizer, to diversify their production systems through increasing their off-farm labor or livestock activities, or to move to a less populated region with uncleared land. Given the lack of basic economic opportunities to diversify crop production in many rural areas, they frequently decide to move.

[7] The term farming systems came into prominence in the 1970s and was applied to a series of activities taking place around the globe. These activities had as their primary goal to design research programs which are holistic, interdisciplinary and cost-effective in generating agricultural technology which is appropriate to the production and consumption goals of rural households in specific micro-environments (Eicher and Baker 1982:159). The term Farming Systems, Farming Systems Research (FSR) and a host of research and development methodologies related to it under different nomenclatures have probably been the dominant influence on international donor funding for limited resource agriculture in the 1970s and 1980s. The methodology calls for four or five basic steps that include: (1) the conduct of informal (reconnaissance) surveys by a multidisciplinary team of researchers; (2) the development of hypotheses to direct later

research; (3) the conduct of on-farm research of promising techniques and varieties; and (4) extension of promising interventions to a broader group of farmers and assessment of the experiences of these farmers in using the proposed technology.

[8] Goering (1978:42) cites a high of 14% in 1974.

[9] For example it was in 1961 that a World Bank Team argued that rapid tranformation of Tanzania's rural areas "was more likely to happen with systematic programmees of planned settlement of empty or thinly populated areas which are suitable for agricultural development" (Kulaba 1981:20).

[10] Thirty-four Bank assisted projects were evaluated during the assessment (35% in Africa; 24% in East Asia and the Pacific, 9% in South Asia, 26% in Latin America and the Caribbean, and 6% in the Middle East. The 34 projects were aggregated into 27 projects for purposes of analysis primarily by combining follow-on projectEd. Seventy-one percent were based on rainfed agriculture and the remainder on irrigation. The projects reviewed fell into two categories. Approximately half were planned and implemented as settlement projects. The rest consisted of other project types with a settlement component.

[11] Onchocerciasis is a disease transmitted to humans by the female fly, simuleum damnosum. The fly carries the larvae of a parasitic worm, onchocerca volvulus, which spreads into the

epidermic tissues of the skin eventually reaching the anterior chambers of the eye. Clinical indication of the disease appears only after repeated bites from infected flies. Effects include skin discoloration, itching, subcutaneous nodules and, in the later stages, eye lesions that may result in blindness.

[12] Other diseases which seriously limit livestock production in Africa include rinderpest, cantagious bovine pleuropneumonia, East Coast fever and other tick-borne diseases, foot and mouth disease, streptothricosis, African swine fever and diseases caused by internal parasites (FAO 1986).

[13] At a global level, irrigation plays a relatively insignificant role in Sub-Saharan Africa. With the exception of Sudan and Madagascar, the percent of cultivated land under irrigation is probably less than 5% in most countries and only 3% for the entire continent.

[14] It has beeen estimated that there were over 14,874,500 people living in 8,046 Ujamaa Villages and Development Villages in 1979 which represented 97% of the total rural population. Estimates for 1980 indicate that the rural population living in Ujamaa Villages and Development villages had risen to 15,365,800 people, about 82.3% of the total population at that time (Kulaba 1982:15).

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APPENDIX I
SUPPLEMENTARY FIGURES AND TABLES

Appendix I, Table 1. Present and Projected Populations Compared with Potential Population Supporting Capacities in Africa.

Year	Population (Millions)	Population (density persons/ha)	Potential Population Supporting Capacities Low Inputs	Intermediate Inputs	High Inputs
1975	380	0.13	0.39	1.53	4.47
2000	780	0.27	0.44	1.56	4.47
2020	1,542	?	?	?	?

Source: G. M. Higgins and A. H. Kassam, Land, Food and Population in Africa, 1984. In, Advancing Agricultural Production in Africa, D. L. Hawksworth, Ed., Farnham Royal: Commonwealth Agricultural Bureaux. Pg.339.

Table 2 CLASSIFICATION OF COUNTRIES IN SUB-SAHARAN AFRICA ACCORDING TO POTENTIAL POPULATION SUPPORTING CAPACITY OF LAND (PPSC) AND MAJOR FOOD COMMODITIES CONSUMED, MID-1970s

PPSC	Major food commodities consumed								
	Maize	Millet-sorghum	Rice	Roots-tubers	Roots-tubers & cereals	Mixed cereals	Number of countries	Total population Av. 1971-80 (million)	Share of regional population (%)
Land scarce: 0.50	Cape Verde(Fi) Lesotho (L) Kenya (L)	Niger (L)		Burundi, Rwanda		Mauritania (Fi, L) Somalia (L)	8	33.1	11
Land moderately scarce: 0.51-1.00	Namibia (Fi, L)	Upper Volta			Nigeria(Fo) Uganda (Fi)	Mauritius, Senegal (Fi) Ethiopia (Fo, L)	7	120.5	39
Land in balance with population: 1.01-2.00	Swaziland (L) Malawi, Zimbabwe (L)	Mali (Fi,L)	S. Leone (Fi)	Togo		Botswana (L) Gambia (Fi)	8	25.1	8
Land moderately abundant: 2.01-5.00		Sudan (L) Chad (Fi,L)	Guinea-Bissau, Guinea(Fo)	Ghana (Fi) Mozambique	Benin, Tanzania (Fi, L)		8	63.7	21
Land abundant: 5.00	Zambia (Fo)		Madagascar(Fo,L) Liberia (Fo)	Congo (Fi,Fo) Angola(Fo) Zaire (Fo) CAR (Fo)	Gabon (Fo,Fi) Ivory C. (Fo) Cameroon (Fo)		10	64.4	21
No. of countries	8	5	5	9	7	7	41		
Total population Av.1971-80 (mill)	33.6	37.4	17.6	64.8	112.4	41.0		306.8	
Share of regional population (%)	11	12	6	21	37	13			100

Note. Countries are also identified by significant agricultural resources apart from land: (Fi)= fisheries; (Fo) = forest resources; (L) = livestock.

Source: FAO (1984). The State of Food and Agriculture. Rome: FAO. Pg. 57

Appendix I, Table 3: Characteristic Phases in the Development of Frontier Areas.

Phase I: Initially the occupation of new land where land is available generates an unstable process of productive activity. Subsistence may predominate. Techniques applied are rudimentary and capital investment practically nil. There is no land tenure. The colonists are constantly moving further out as the land loses its fertility. Population density is low, there is practically no infrastructure. In many cases the colonists may remain in a situation of almost complete isolation.

Phase II. As integration into the national territory ands economic activities progress, the new colony tends to consolidate. Very often, the defacto occupations are legalized, and control by the state tends to increase. Infrastructure and service networks develop and the settlement structure tends to acquire a more normal profile. Additionally, small urgan centres emerge to play important economic factors such as the distribution of inputs for agricultural activities, and services and goods for consumption.

Phase III. In a later phase, the colony gets integrated into the national territory. The network of services becomes indistinguishable from that of any other area, and the trading and goods distribution system become regular and stable. This integration may be a negative one if economic and demographic pressure have destroyed basic ecological balance of the frontier area. In this case agricultural activity shifts towards other fronts and is replaced by less intensive uses of land. In this manner a "hollow" frontier is created and integration into the national territory is the result of the shift towards new lands. But not all colonists have, as an objective to become permanent settlers. In many cases, colonization represents to them an opportunity to open new land for subsequent sale. To the extent thtat this type of colonist's economic strategy tends to predominate, the outward movements to new lands is accelerated.

Source: C., "Migrations and the Agrarian Frontier: Argentina and Brazil in the Upper Paranà-Uruguay Basin," In Why People Move, J. Balàn, ed., Paris: Unesco Press. Pp. 293-316, in S. Lacroux-Ovando, Spontaneous Settlements and Government Policy within the Context of Rural Settlement Planning, Paper presented for the Seminar on Planning for Spontaneous Settlements in Rural Regions: the Case of Spontaneous Settlements, Nairobi Kenya, 11-20 November 1985, Pp. 5-6.

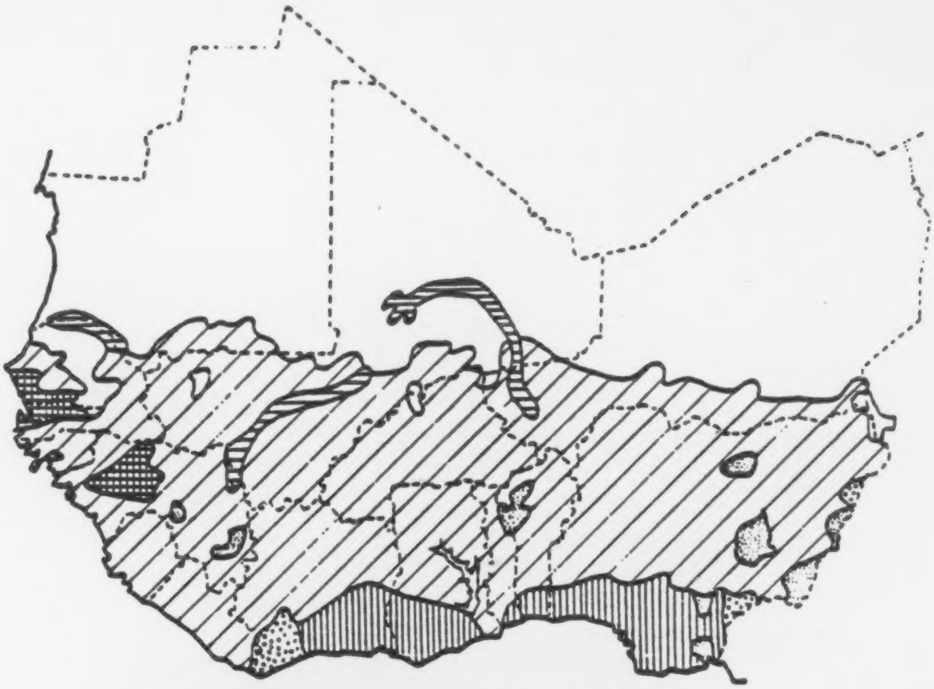


Fig. 1 WEST AFRICA: MAIN AGRICULTURAL OR FARMING SYSTEMS.

- ○ Pastoralism and sahel fringe cultivation
- ░ Shifting cultivation
- ▥ Rotational woody bush fallow
- ▨ Rotational bush/grass land fallow
- ▒ Permanent cultivation
- ▤ Floodland cultivation
- ▦ Mixed farming

Source: FAO (1983). Integrating Crops and Livestock in Africa. FAO Animal Production and Health Paper No. 41. Rome: FAO. Pg. 42.

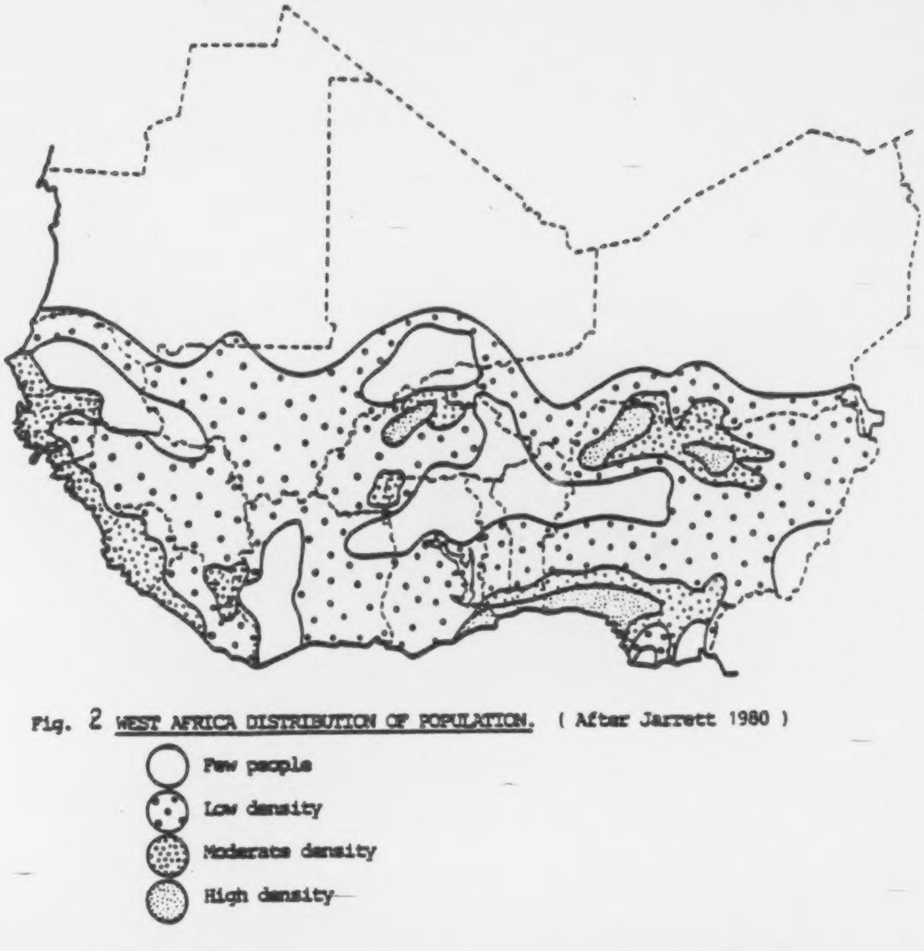


Fig. 2 WEST AFRICA DISTRIBUTION OF POPULATION. (After Jarrett 1980)

○ Few people

⁘ Low density

▩ Moderate density

░ High density

Source: FAO (1983). Integrating Crops and Livestock in Africa. FAO Animal Production and Health Paper No. 41. Rome: FAO. Pg. 8.

Figure 3

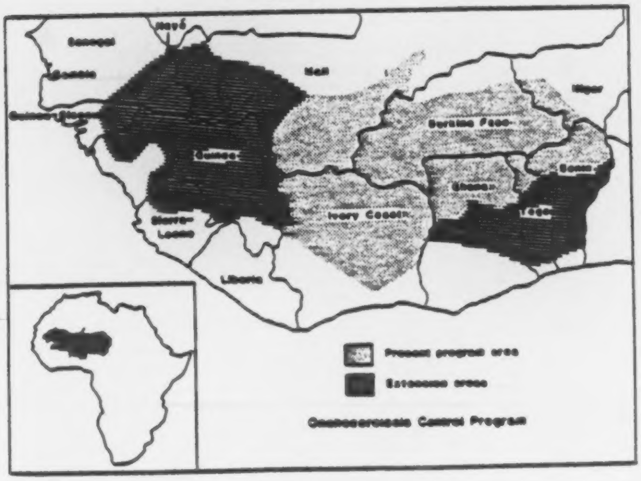
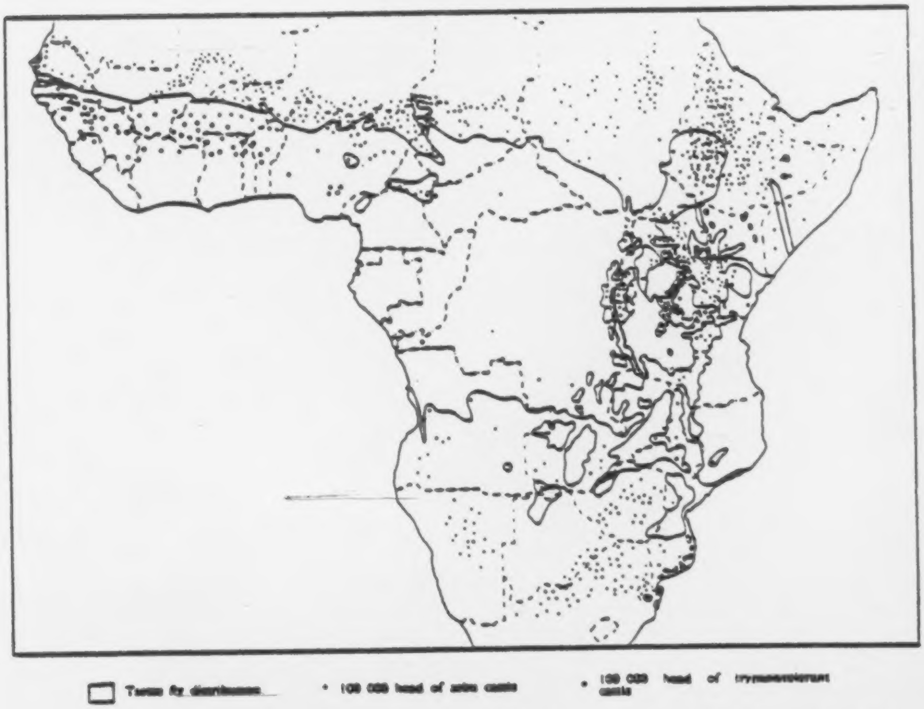

Senegal
Nayé
Gambia
Mali
Guinea Bissau
Niger
Burkina Faso
Guinea
Ghana
Benin
Sierra Leone
Ivory Coast
Togo
Liberia
Present program area
Extension areas
Onchocerciasis Control Program

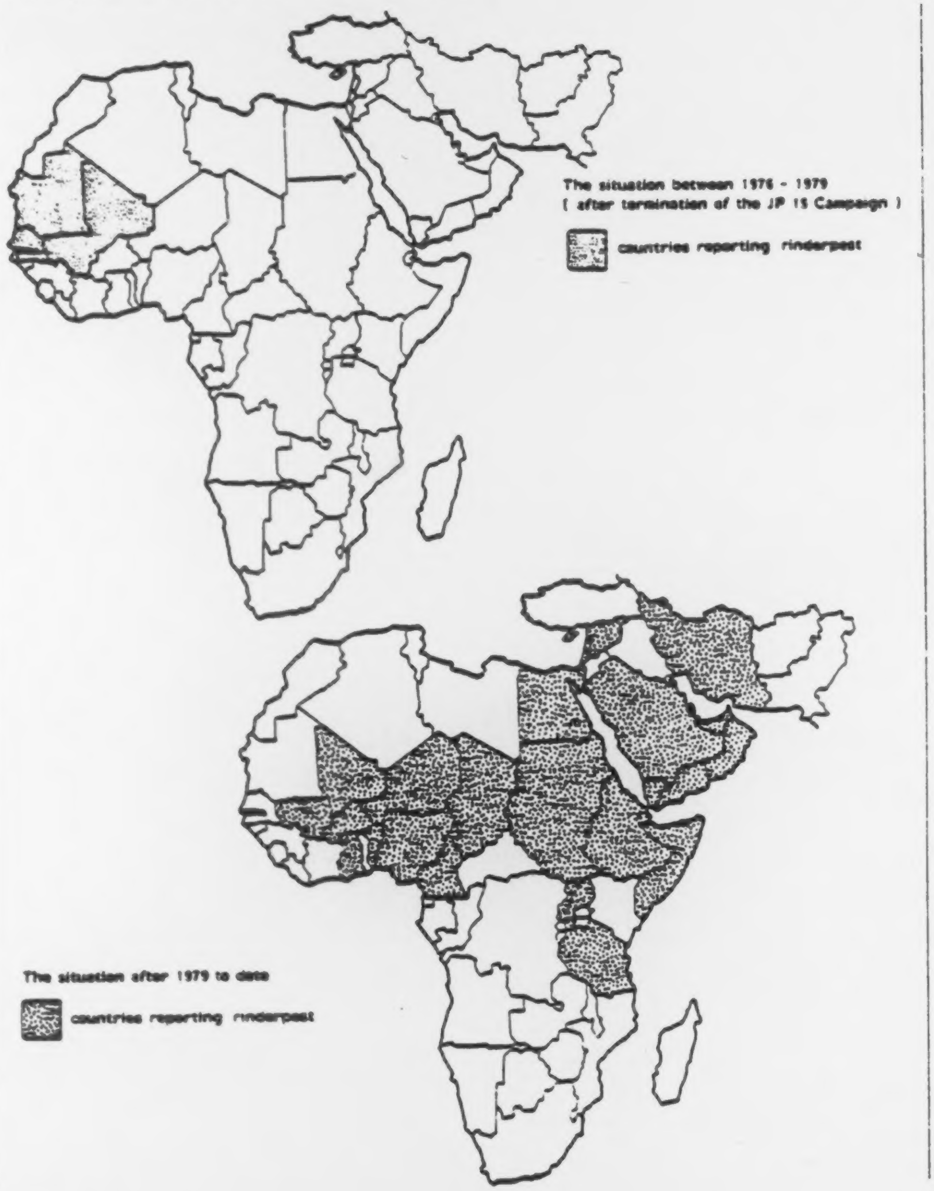
Figure 4


Tsetse fly distribution
100 000 head of zebu cattle
100 000 head of trypanotolerant cattle

Geographical distribution of tsetse fly and cattle in Africa (from *Oxford regional economic atlas, Africa*, and Ford, 1963)

Figure 5

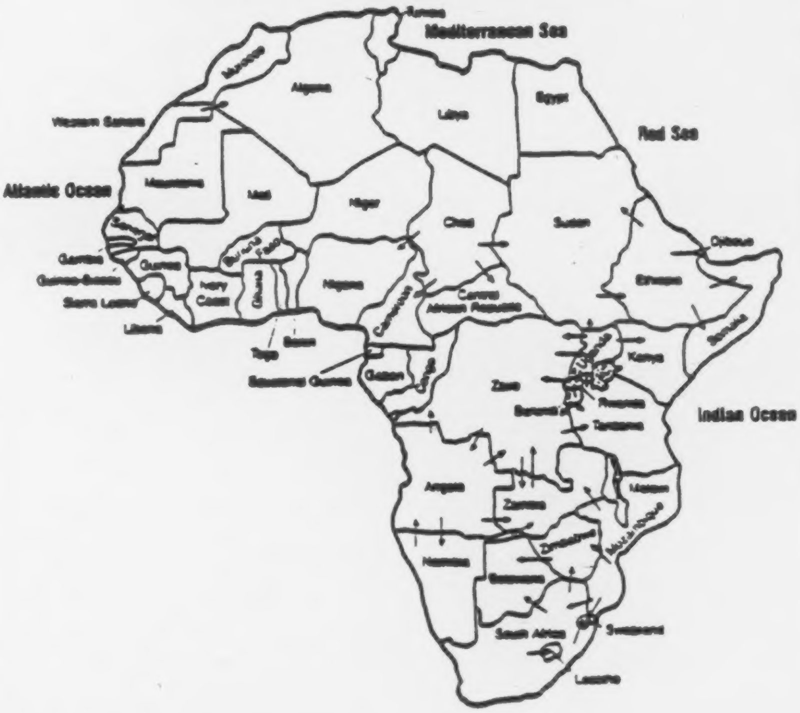
Rinderpest in Africa and the Near East


The situation between 1976 - 1979
(after termination of the JP 15 Campaign)
▨ countries reporting rinderpest
The situation after 1979 to date
▨ countries reporting rinderpest

Source: FAO (1983c). The Resurgence of Rinderpest. World Animal Review. Special Supplementary Issue. Pp. 5-10.

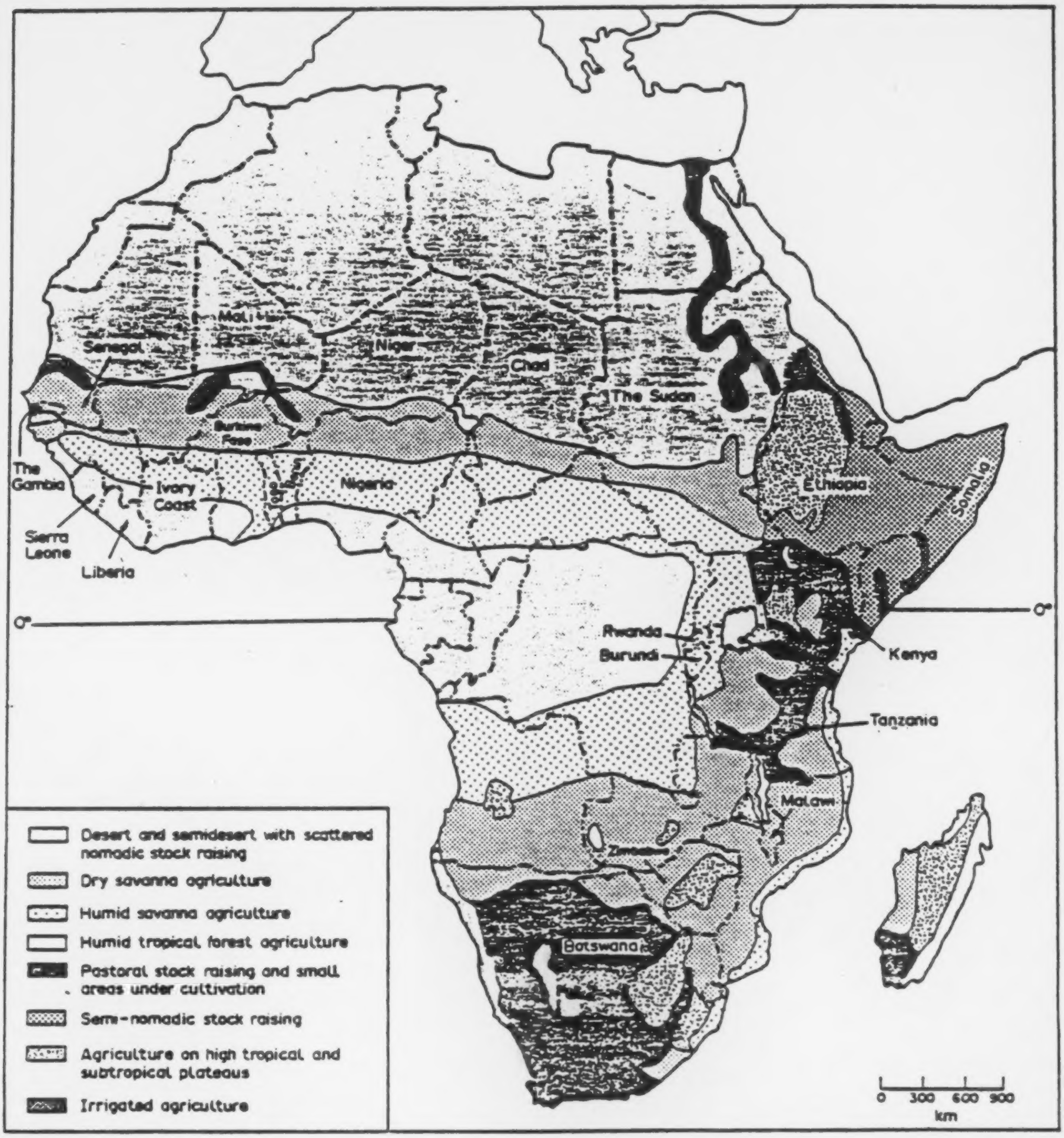
Figure 6

Significant Refugee Flows in Africa


Tunisia
Mediterranean Sea
Morocco
Algeria
Libya
Egypt
Western Sahara
Red Sea
Atlantic Ocean
Mauritania
Mali
Niger
Chad
Sudan
Djibouti
Senegal
Gambia
Guinea
Guinea-Bissau
Sierra Leone
Liberia
Burkina Faso
Ivory Coast
Ghana
Nigeria
Ethiopia
Central African Republic
Cameroon
Somalia
Togo
Benin
Uganda
Kenya
Equatorial Guinea
Gabon
Congo
Zaire
Rwanda
Burundi
Tanzania
Indian Ocean
Angola
Malawi
Zambia
Mozambique
Zimbabwe
Namibia
Botswana
Swaziland
South Africa
Lesotho

Note: Arrows indicate refugee movements over the past several years that have contributed to Africa's current refugee populations. They do not show all movements. Nor do they show return flows of refugees back to their countries of origin.

Figure 7. Irrigation Potential in Sub-Saharan Africa


Senegal
Mali
Niger
Chad
The Sudan
Burkina Faso
The Gambia
Ivory Coast
Nigeria
Sierra Leone
Liberia
Ethiopia
Somalia
0°
0°
Rwanda
Burundi
Kenya
Tanzania
Malawi
Zimbabwe
Botswana
Desert and semidesert with scattered nomadic stock raising
Dry savanna agriculture
Humid savanna agriculture
Humid tropical forest agriculture
Pastoral stock raising and small areas under cultivation
Semi-nomadic stock raising
Agriculture on high tropical and subtropical plateaus
Irrigated agriculture
0
300
600
900
km

Source: M. G. Kay, W. Stephens and M.K.V. Carr (1985). The Prospects for Small-Scale Irrigation in Sub-Saharan Africa. Outlook on Agriculture 14 (13): 115-121.

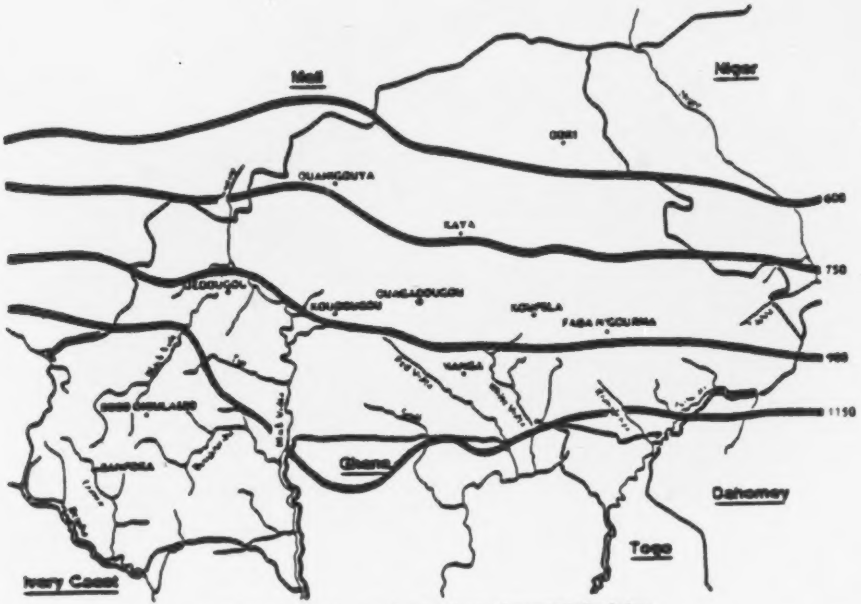
APPENDIX II

CASE STUDY OF SPONTANEOUS RURAL NEW LANDS SETTLEMENT IN BURKINA FASO

One of the best documented examples of internal migration in West Africa is Burkina Faso, formerly Upper Volta. Burkina is one of the poorest and least developed countries in the world by almost any of the standard indicators of poverty and development. Given Burkina's limited possibilities for industrial and mineral development, the agricultural and livestock sectors of the economy have traditionally been the priority areas for national investment. The results, however, of government investment and a substantial increase in foreign aid to agriculture in the mid-1970s have been disappointing. Since 1970 it is estimated that real GNP has actually declined in per capita terms. Moreover, there is strong evidence that per capita agricultural production and per capita production of food has declined in the same period.

This negative past record for agricultural development has been attributed to a number of factors including: poor soils; low seasonal rainfall (Figure 8); distant markets; little infrastructure; and the extremely low level of existing agricultural technology. Another frequently cited problem is the country's high rural population density estimated at 17.9 persons per square kilometer in 1975, the third highest rural population density in West Africa (Jeune Afrique 1975). Even more important

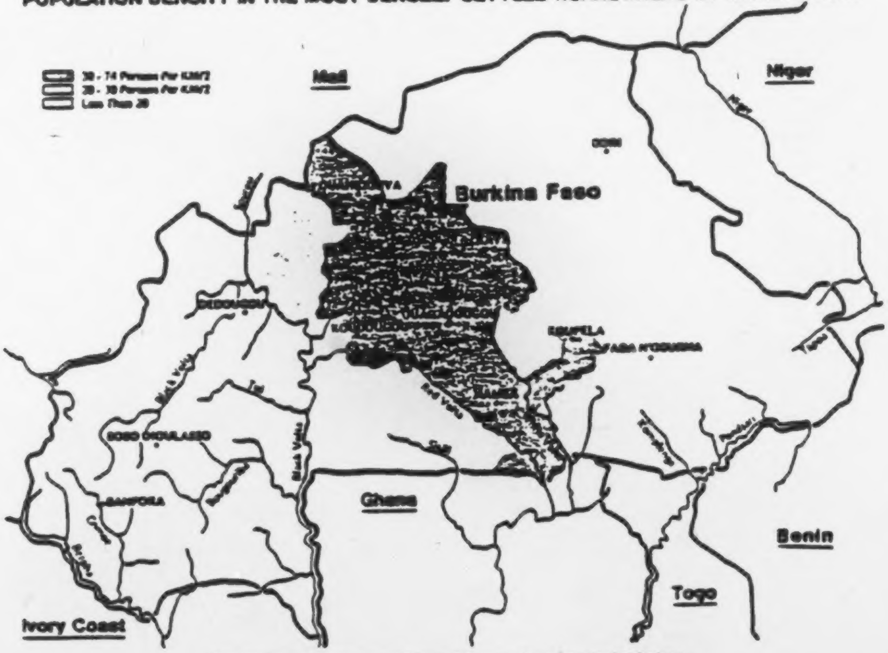
Table 8
Rainfall in Burkina Faso


Mali
Niger
DORI
OUAHIGOUYA
KAYA
600
750
DEDOUGOU
KOUDOUGOU
OUAGADOUGOU
KOUPELA
FADA N'GOURMA
900
MANGA
BOBO DIOULASSO
1150
BANFORA
Black Volta
Red Volta
White Volta
Ghana
Dahomey
Togo
Ivory Coast

Based on: Ministere de la Cooperation, Republique Francaise, Cartographie Des Pays Du Sahel.

Table 9

POPULATION DENSITY IN THE MOST DENSELY SETTLED RURAL AREAS OF UPPER VOLTA


▨ 39 - 74 Persons Per KM/2
▭ 20 - 38 Persons Per KM/2
▭ Less Than 20
Mali
Niger
DORI
OUAHIGOUYA
Burkina Faso
DEDOUGOU
KOUDOUGOU
OUAGADOUGOU
KOUPELA
FADA N'GOURMA
MANGA
BOBO DIOULASSO
BANFORA
Black Volta
Red Volta
Ghana
Benin
Togo
Ivory Coast

Based on: Ministere de la Cooperation, Republique Francaise, Cartographie Des Pays Du Sahel.

was the fact that this population density is mostly concentrated in the central plateau region which covers less than one quarter of the country's total land area (Figure 9). Population densities on the Mossi Plateau (50-100 km²) contrast sharply with the relatively low densiteis (below ten persons per km²) in the far north and south. This uneven distribution was attributed to several factors including the higher incidence of disease in the better watered areas of the south and the "cultural cohesion" of the Mossi.

The vast majority of farmers on the densely populated Mossi Plateau were and continue to be dependent on subsistence agriculture. There are limited possiblities for irrigation while government programs to introduce animal traction have not met with widespread success (deWilde et al. 1967b; Barrett et al. 1981). Because of high population densities most plateau farmers have been forced to shorten the fallow cycle necessary to restore soil nutrients lost in cultivation. This has had a negative effect on soil fertility and yields (deWilde et al. 1967a, 1967b; Broekhuyse 1974; Rey 1980) and increased the farmers' vulnerability to periodic and long-term drought. One of the results has been a high rate of emigration from the region. The best known population movement example is the Mossi who leave to find work in the plantation economies of the more developed coastal countries (Deniel 1967; Finnegan 1980; Coulibaly et al. 1980; Conde 1978). With the advent of the colonial period some of the earlier constraints on internal population movements were

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reduced and there was a gradual shift of Mossi population off the plateau into the less populated non-Mossi areas to the south (Figure 10).

As early as the 1930's, the French became convinced that efforts to increase the agricultural income of farmers living on the Mossi Plateau could meet with only limited success given the high population densities, limited resource base, eroded soils, and basic lack of infrastructure in most areas. This led to the creation of a number of land settlement schhemes whos primary goals were : (1) to attract Mossi settlers from the more densely settled areas (thus contributing to the decongestion of the population in these areas); and (2) to encourage an intensification of agricultural production in some of the less populated areas where Mossi migrants were moving on their own. The Office du Niger is one of the best known of these colonial schemes. Other land settlement projects designed to attract Mossi settlers were located in the southwestern portion of the country including the Vallee du Sourou, the Plaine du Gando and the Vallee du Kou To date, however, these planned settlement and directed settlement programs have absorbed only a small portion of the spontaneous immigration of Mossi off the plateau to the south (Figure 10). There is a large literature, most of it in French, that examines different aspects of these projects (See annotated bibliography describing deWilde et al. 1967b; Remy 1973; Diallo 1971; Kohler et al. 1974; Marchal 1971; Hartog 1978 in McMillan 1983) and the cultural impact of the spontaneous immigration to certain regions, even villages, which are